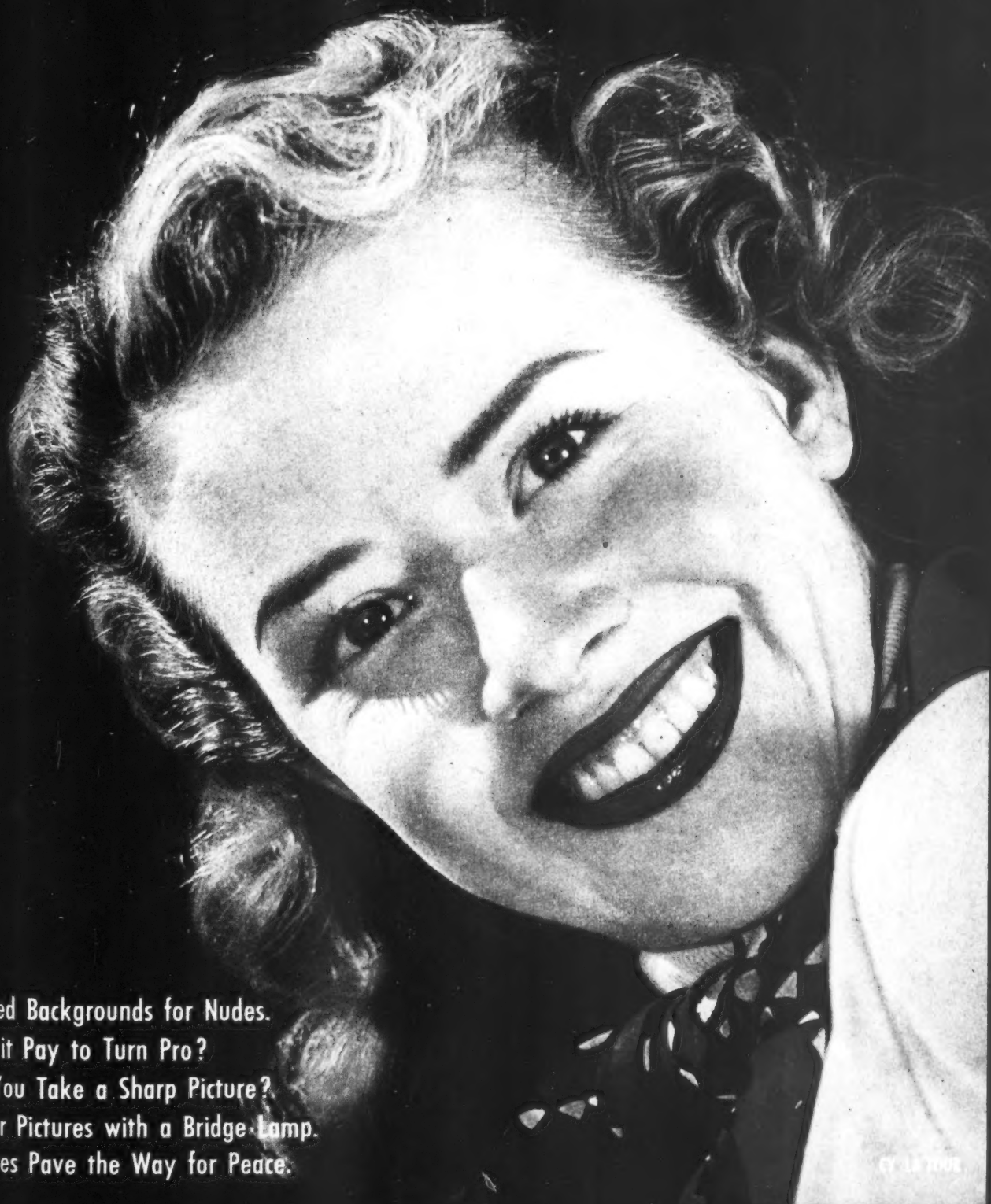


OCTOBER 1949, 35 CENTS

# Modern PHOTOGRAPHY

combined with Minicam Photography

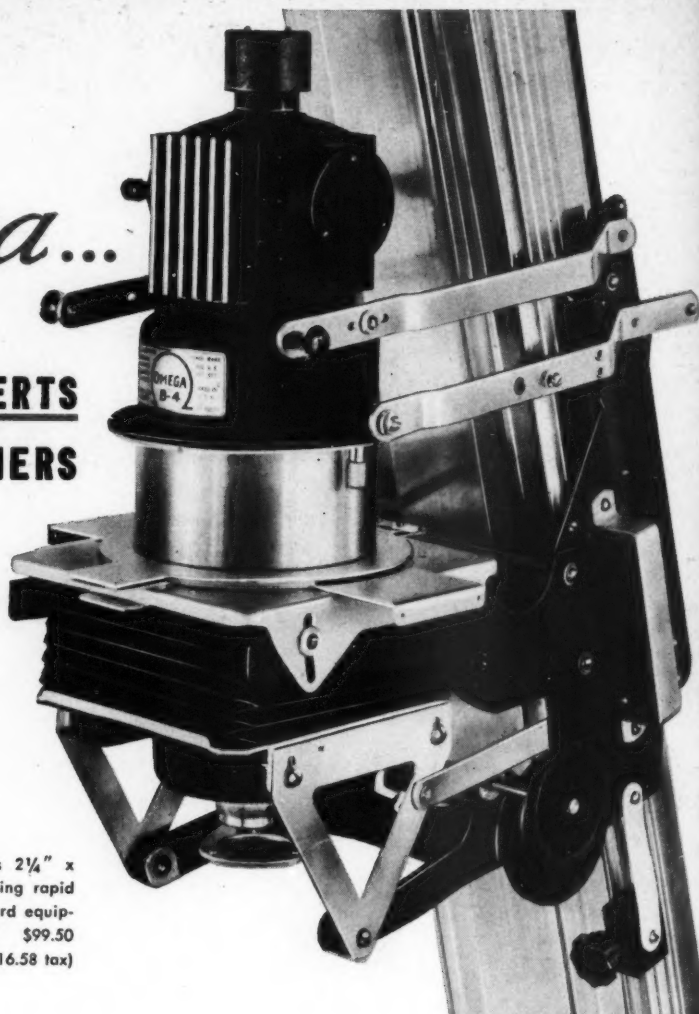


Colored Backgrounds for Nudes.  
Does it Pay to Turn Pro?  
Can You Take a Sharp Picture?  
Indoor Pictures with a Bridge-Lamp.  
Pictures Pave the Way for Peace.

CT 10 1949

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Omega enlargers are designed by master craftsmen to produce sharp, brilliant results of matchless quality. They give you perfect rigidity, evenness of illumination, high light output, ventilated lamphousing, conveniently placed levers and handles for quick operation. They are easy and economical to use and are supported by Simmon Brothers' proverbially excellent service.

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Kodak Retina II, f 2 Xenon lens...	197.75
Kodak Reflex II, f 3.5 lens, case...	155.00
Kodak Medalist II, f 3.5 lens, case...	312.50
Ciroflex Model B, f 3.5 lens, Alphax Shutter...	76.98
Ciroflex Model C, f 3.5 lens, Rapax Shutter...	99.45
Ciroflex Model D, f 3.5 lens, Synchro Alphax Shutter...	83.50
Ciroflex Model E, f 3.5 lens, Synchro Rapax Shutter...	113.70
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Zeiss Ikonta 35mm Novar f 3.5 lens, case...	83.00
Zeiss Ikonta 35mm Xenar f 2.8 lens, case...	99.00
Zeiss Ikonta A, 1 1/2 x 2 1/4, Novar f 4.5 lens, case...	63.00
Zeiss Ikonta A, 1 1/2 x 2 1/4, Tessar f 3.5 lens, case...	108.00
Zeiss Ikonta B, 2 1/4 x 2 1/4, Novar f 4.5 lens, case...	69.00
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Super Ikonta A, Tessar f 3.5 lens, case...	213.00
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Super Ikonta BX, Tessar f 3.5 lens, case...	330.00
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Leica Camera Model IIIC, with Summitar f 2 lens...	385.00
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REFLEX 35mm CAMERA  
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\*Not to be confused with any other Kine Exakta Camera

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Dalite Zipper Type Carrying Case for any of the above Screens. Only ..... \$3.25

## TRADE IN YOUR OLD EXPOSURE METER

We will be pleased to accept your old exposure meter in trade, regardless of make or condition, towards the purchase of a new meter. Just send us your old meter for estimate.  
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Norwood Hollywood Meter for incident light ..... \$32.08  
G. E. Model PH 1, "the meter with a memory" reads incident or reflected light ..... \$32.08  
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Leica Model D, with Elmar f 3.5 lens, case.....	71.00
Leica Model F, with Summar f 2 lens, case.....	150.00
Leica Model F, with Elmar f 3.5 lens, case.....	130.00
Leica Model G, with Elmar f 3.5 lens, case.....	140.00
Leica Model G, with Summar f 2 lens, case.....	130.00
Leica Model IIIC, with Elmar f 3.5 lens coated.....	170.00
Leica Model IIIC, with Summar f 2 lens.....	199.00
Leica Model IIIC, with Summar f 2 coated, case.....	200.00
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Contax II, f 2 Sonnar, case.....	170.00
Contax II, f 1.5 Sonnar.....	160.00
Contax III, f 2 Sonnar, case.....	250.00
Contax III, f 1.5 Sonnar, case.....	300.00
Contax III, with f 1.5 Sonnar "T" Coated, case.....	300.00
Kodak Reflex I, f 3.5 coated lens, case.....	70.00
Rolleicord IIA, C. Z. Triotar f 3.5 lens.....	140.00
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Kodak Medalist II, f 3.5 coated lens, flash outlet.....	140.00
Kodak 35mm f 3.5 cpld rangefinder.....	90.00
Argus C3, f 3.5 coated lens, case, flash.....	90.00
Zeiss Super Ikonta B, C. Z. Tessar f 2.8, case.....	170.00

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16mm AUTOMASTER TURBET with 1 1/2" Anisix f2.7 filmcoated lens.....	305.08	270.00
16mm AUTOMASTER TURBET with 1 1/2" Lummax f1.8 focusing lens, filmcoated.....	332.50	300.00
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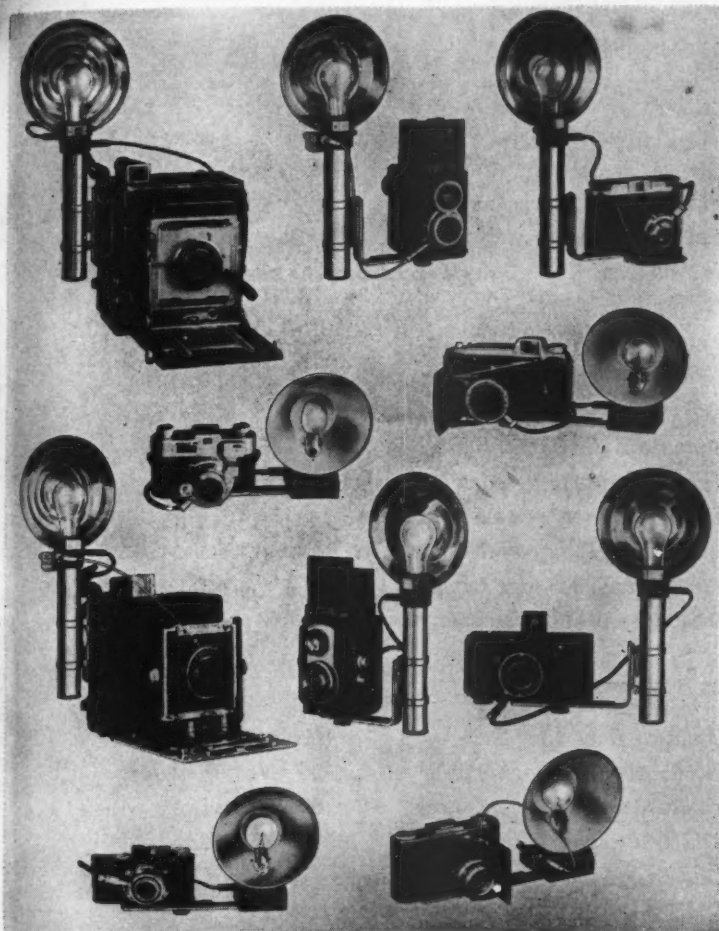
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of "The Camera  
of Tomorrow"



There's a Kalart Speed Flash for almost every camera, \$8.95 to \$24.60, inc. Fed. tax.

## Days Are Shorter! Take After-Dark Pictures With A Kalart Speed Flash

Yes, autumn days are about *one-third shorter* than summer days. But why let that stop your picture-taking fun? Add a Kalart Speed Flash to your camera, and it's easy to take snapshots after dark, in rainy weather, indoors — anywhere — any time. Autumn brings you so many opportunities for wonderful pictures — the children starting back to school or dressed up for Hallowe'en — hunting shots — candid family portraits on Thanksgiving Day.

But remember this about flash photography. Many shots are a once-in-a-lifetime opportunity. That means you need equipment that's sure-fire. A Kalart is the world's most popular flash synchronizer because it is dependable and trouble-free. A Kalart opens the shutter *mechanically*. You don't miss pictures or waste flash lamps because the batteries are too weak to trip the shutter. A Kalart Speed Flash can be attached to most cameras — old or new — in a few minutes. Ask your dealer for a demonstration.

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Here's the handiest, most efficient and easiest-to-use Speed Flash you can own. New "Safety First" features guard against waste of lamps and accidental scorching of fingers on hot lamps. Built-in test lamp serves as a warning signal if unit is improperly connected and also provides an easy way to test synchronization. Patented "Safety First" lamp ejector makes it unnecessary to touch used hot lamp with the hand. Just press ejector and lamp pops out. Scientifically designed concentrating reflector increases the light intensity of midget lamps over 80%. Models for most cameras, \$8.95 and \$9.95. \*Patents Pending

Illustrated: Left to right, top to bottom:

- Kalart Master Flash Unit on Speed Graphic
- Kalart Master Automatic on Argoflex
- Kalart Master Flash Unit on Anso Titan
- Kalart Compak Flash Unit on Kodak 35
- Kalart Compak Flash Unit, Kodak Tourist
- Kalart Master Automatic on B & J Press
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# KALART



# Modern PHOTOGRAPHY

COMBINED WITH  
MINICAM PHOTOGRAPHY

contents, october, 1949

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Americans aren't warmongers. See  
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May-June 1961

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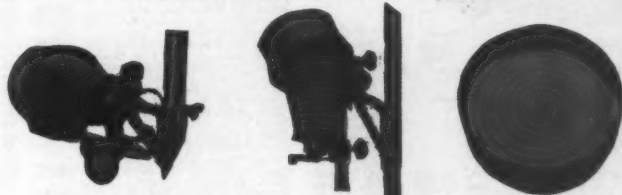
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- 2—Select the Brand New or Like New Camera, or equipment you desire in column one or two.
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Leica III, cpld, F3.5 Elmar, cc.....	134.00	100.00
Leica III, F2 Summar, cc.....	134.00	120.00
Leica III A, F3.5 Elmar, cc.....	149.00	115.00
Leica III A, F2 Summar, cc.....	179.00	145.00
Leica III B, F2 Summar, cc.....	198.00	155.00
Leica III C, F3.5 Elmar, ctd.....	280.00	229.00
Leica III C, F2 Summar, ctd.....	385.00	305.00
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Contax II, F1.5 Sonnar, cc.....	245.00	275.00	190.00
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120 or 620 Ansco Color, Day or Tung.....			1.37
8mm Kodachrome, Reg. or Type A.....			4.08
8mm Mag. Kodachrome, Reg. or Type A.....			5.02
16mm Kodachrome, 50 ft. Mag. Reg. or Type A.....			6.74
16mm 100 Ft. Ansco Color.....			8.55
16mm 100 Ft. Kodachrome.....			10.16

	New 10% Down	Trade-in Allowance Used Value
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F2 lens, cc.....		129.00
Minox, F3.5 Lens.....		128.00
Kardex 35, F2 Elmar ctd, cpld.....	229.50	224.00
Kine Exacta, F3.5 Tessar, case.....	144.00	115.00
Kine Exacta, F2.8 Tessar, case.....	230.00	169.00
Kine Exacta, F2 "T" ctd, Biotar.....	279.00	229.00
Clarus, cpld, F2.8 ctd.....	116.25	79.50

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Super Ikonta B, F2.8 Tessar.....	267.00	174.00	140.00
Super Ikonta BX, F2.8 Tessar.....	339.00	215.00	180.00
Medallist II, F3.5 Elkar, ctd.....	297.00	185.00	160.00
120 Super Ikonta C Special, F3.5 Tessar.....	243.00	168.00	100.00

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Kodak Reflex II, F3.5 ctd Elkar, cc.....	154.91	59.00	45.00
Rolleicord I, F4.5 Triotar, cc.....		99.00	75.00
Rolleicord II, F3.5 Triotar, cc.....	140.00	98.00	75.00
Auto Rolleiflex, F3.5 Xenon, ctd, cc.....	220.00	185.00	150.00
Auto Rolleiflex II, F2.8 ctd, cc.....	239.00	215.00	185.00
Tessar lens, cc.....			
Auto Rolleiflex F3.5 Tessar.....	195.00	160.00	

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8mm B & H Sporter, F2.8 ctd.....	99.75		
8mm Cine Kodak 8-25, F2.7.....	71.00	44.00	36.00
8mm Cine Kodak Reliant F2.7 ctd.....	89.00		
8mm Revere 70, Mag., F2.8.....	95.00	75.00	
8mm Revere 88, F2.5 ctd.....	77.50	57.50	45.00
8mm Revere 60, turret, F2.8 Mag.....	152.50	115.00	95.00
8mm Rolux L8, F1.5 ctd lens.....	119.00		
8mm Rolux L8, Year F2.8.....	139.48	89.00	65.00
8mm Cine Kodak Mag., F1.9.....	163.33	125.00	90.00
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8mm De Jur 100, F1.9.....	140.50		
16mm Keystone A7, F2.8 ctd.....	74.50	55.00	35.00
16mm Revere Mag., F2.5 ctd.....	140.00		
16mm Revere Mag., F1.9 ctd.....	165.00		
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16mm B & H Autoload Mag., F1.9.....	307.17	255.00	185.00
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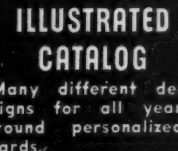
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## coffee break with the editors

### It Was Like This

If you've ever had a "sure-thing" bet turn out to be a fluke, you know how we feel. On the cover of this issue, we refer to an article entitled *Colored Backgrounds for Nudes*. On the Contents page, however, the article is conspicuous by its absence. This is what happened:

The Kodachromes that were to illustrate the article looked great when we sent them to the engravers. Confident that they would turn out well, we completed the cover layout and "put it to bed." Then, too late to change the cover, the guillotine fell. The engravers had trouble making the plates; the proofing inks wouldn't dry. When the plates were finally finished and the last proofs were drawn, they looked as if mustard and ketchup had been used in place of ink. Rather than print from such plates, we requested that they be scrapped. New engravings are now being made and if they measure up to par, the article will appear in a future issue.

### Probably Purebred

Speaking of magazines, we have to hand it to the picture-conscious editors who are producing *Farm Quarterly*. It's by far the best thing on farming we have ever seen, full of big, colorful pictures produced by some of the finest magazine photographers in the country. As we came in from hav-



... something to crow about

ing a sandwich and malt the other day, we saw one of those queer arrangements that can happen only once in a lifetime. It was a *Farm Quarterly*

picture of a rooster with the longest neck in the world, and it made its appearance on a table where ladies were stuffing direct mail dodgers into envelopes. Grabbing our reflex, we made a grab shot just to prove that such a bird does exist and, of all places, in a printing plant.

### Panacea

The difference between making pictures for fun, and making them for bread-and-butter, is the difference



... anti pots and pans

between day and night. Or so the professionals tell us. Their worst enemy, they insist, is the boredom that comes from shooting endless faces or mountains of pots and pans. We know several who stop what they are doing to perform a few conjuring tricks when their nerves begin to ping. Others periodically break the monotony with hobbies ranging from crocheting to beetle-collecting. Bob Kohl, a young fashion photographer in Chicago, has still another way of relieving tension when the going gets rough. With the help of his model, he methodically lampoons whatever assignment they are trying to fulfill. "The art directors would probably turn purple if they saw how we satirized their brain-children," Bob grins. "The cornier we can make the costume, pose, and expression, the better. But by the time we've had fun

*Continued on page 96*

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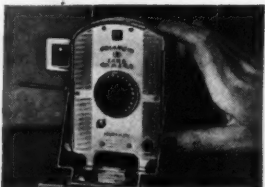


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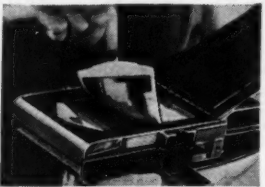
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Ciroflex f3.  
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Graflex Super  
Auto Graflex  
Graflex Super  
Ektar .....  
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Clarus, f2.8 (c) case, gun.....	134.00	86.00
Exakta G, 127 Reflex, f3.5.....		96.00
Falco 127, f3.5, case.....		16.00
Foth Derby, f3.5, cpld RF.....		59.00
Kine Exakta, f2 Biotar (c) case.....	400.00	229.00
Kodak 35, f4.5 (c) Synch.....	57.72	39.00
Kodak 35, w/RF, f3.5 (c).....	86.75	58.00
Kodak Flash Bantam, f4.5 (c).....	49.50	37.00
Kolibri 127, f3.5 Tessar, case.....		39.00
Luxur 127, f4.5, 500th sec. case.....		34.00
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Mercury 11, f2.7 (c).....	82.90	29.00
Miro 16, case.....	23.45	11.00
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Perflex Deluxe, f2.8 (c) RF.....	99.50	56.00
Retina 1, f3.5 lens, CR.....	72.75	49.00
Retina 11, f2 lens, RF, CR.....	197.75	116.00
Retina 11, f2 Ektar, RF, CR.....	197.75	136.00
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Reflecta, f4.5 Triotar.....		39.00
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Cine Kodak Model 25, f2.7 (c).....	71.75	40.00
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Cinklex, f2.5, (c).....	76.15	49.00
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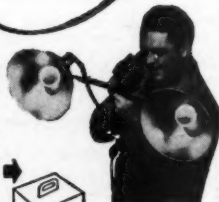


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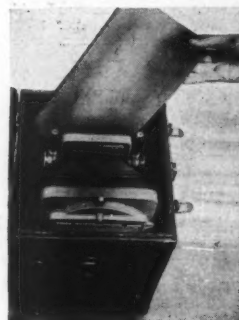
## did you know? technician's notes

...that you can make up your own non-stick solution so that prints will come off ferrotype tins easily without washboard markings? Take one ounce of Butyl Carbitol, one ounce of Ethyl Glycol (which can be purchased from your local chemical supply house) and add to this seven ounces of water to make up a stock solution. A working solution consists of ten ounces of water mixed with one ounce of stock solution. After your prints are through washing, soak them for about five minutes in the working solution, then squeegee them to ferrotype tins in the usual manner.

...that for quick drying of cut sheet film or prints, it is hard to beat a rubber squeegee blade and an old black enameled ferrotype tin? In lieu of the ferrotype tin you can use a large sheet of polished bakelite about 1/8" thick. The rubber on the squeegee should be soft in texture so as not to scratch the emulsion, but rather firm instead of flimsy. Since the war I have found the red or white rubber blades the best, but some of the dime store "window squeegees" are also very good. The technique for using the blade squeegee is as follows: First thoroughly and gently swab both sides of the film or print with absorbent cotton to remove possible sediment in the wash water. Also swab the tin to remove any clinging dirt. Next, place the negative or print so that the emulsion side is down on the tin. Then, holding the film or print firmly by one edge, wipe the water off with the squeegee blade, starting a little inside of the leading edge of the negative. After drying the squeegee with clean chamois, shift it to the other hand and wipe the rest of the water off, starting from the opposite edge of the film. Then dry the squeegee again, pick up film by corner, and while holding it up swipe the squeegee across the tin to remove the water left by contact with film. Next, lay film down so the emulsion side is up and repeat the procedure, remembering always to wipe the squeegee between swipes. This will leave the emulsion free of water drops and removes so much of the moisture

that it will dry more rapidly than usual. In eight years of constant use I have scratched only three sheets of film by this process. Soft though the emulsion of color film is, I have yet to scratch a color negative. In addition to fast drying, however, the big advantage to this method is that it leaves absolutely no water spots!

... that a 7 x 12 1/2" sponge rubber kneeling pad from the dime store has



all sorts of photographic uses? In addition to protecting your knees while making low angle shots on rough or wet ground, it makes an excellent cushion between your camera and the loose accessories in a carrying case.

...that developing agents are less apt to oxidize if a small part of the preservative is dissolved in the water first? While most books on photography recommend mixing in the order given, chemists rarely follow this procedure. They usually mix about one fourth of the required amount of sulphite to the water before starting to compound the formula, then add the rest after they have stirred in the developing agent. Caution: don't put in all of the sulphite at first because it will reduce the solubility of the developer.

...that although a water temperature of 125° Fahrenheit is usually recommended for mixing developers, a temperature of 100° is more desirable? Higher water temperatures tend to discolor and spoil many developers prematurely.

JAMES H. BROWN



# Best sport news photo in 1948\*



\*Shown above is the Freehold Transcript picture, "Somewhere In There Is A Basketball," which won top honors as the best sport news picture for 1948 at the annual Better Newspaper Institute, sponsored by the New Jersey Press Association at Rutgers U. The photo was taken by Hyatt Cunningham, Transcript photographer and Sports Editor—a graduate of New York Institute of Photography.



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## amateur report

### *A photographic excursion into nostalgia with an amateur photographer of the early 1900's*

By ALBERT MECHAM

Amateur photography has rewarded me well. With thousands of pictures in my collection I have only to browse through them to peel away the years and bask again in the sunlight of my youth.

Cameras and new-fangled automobiles were my first—and lasting—loves. In order to get an older brother to take me to the race meets of the day, I was glad to lug around a heavy 4 x 5 glass plate "Premo" camera for him. In those days the races

around Chicago were held at Libertyville, Maywood, Hawthorne, and Elgin. I saw them all and wished mightily for a chance to take pictures of the cars and their drivers myself until finally a wonderful thing happened. My brother got married and his interest in cars and photography waned. The Premo was all mine.

Some of my most prized pictures were made with this old-style camera. Six shots were the most I could bring back from a day's camera outing be-

cause I owned none of the expensive equipment which was beginning to come on the market. I carried with me only three double plate holders as extras and with them I had to get six "good" pictures. My brother had often made two exposures of a subject in the hopes that one would turn out, but I could not afford this extravagance.

These six-a-day pictures, taken nearly forty years ago, are often those which receive the most attention among my collection today.

Among my own favorites made with the Premo are shots of Barney Oldfield driving his Peerless "Green Dragon"; Webb Jay in his White Steamer "Whistling Billy"; Louis Disbrow doing his famous exhibition mile at Libertyville in 1913; and one picture of Eddie Rickenbacker, then just another barnstormer, standing at the rail watching the Disbrow race with Billy Chandler.

One year, at the Elgin races, I splurged and bought a grandstand seat. This was after I had bought a new roll-film Kodak and could take as many pictures as I liked—three or four dozen in a day! Just as the race started, the section where I was sitting with the Kodak on my knees suddenly collapsed. My only thought was to save the camera, which I did by holding it over my head as I went down with the others. Miraculously, neither the camera nor I received a scratch, and a few minutes later I was out on the rail, making pictures. This was the day that Ralph Mulford, one of my favorites, and Ralph De Palma were both eliminated for minor accidents. After they had run their cars off the track I approached and began angling for a close-up. It wasn't easy with people crowding in. Mulford's back was turned. Finally De Palma saw me. He grabbed Mulford by the arm and turned him around and then, all smiles for the camera, each with an arm around the other's shoulder, they gave me my picture. It was one of the big moments in my amateur career.

I have well over 3,000 pictures in a collection of turn-of-the-century subjects. Of these about 300 are of early cars, including pleasure as well as racing cars. I think that my favorites are among the racing cars—perhaps because it was so hard to get good racing pictures. An exposure of 1/100th a second was a very fast speed for a camera in those days, but even so, any





rapidly moving object that passed too close to the lens produced only a blur when the picture was printed. It was necessary to snap a race picture with the car coming directly head-on. Even with plenty of nerve, you still had to have light feet and a cool head to get a picture without leaving parts of you behind. It put a lot of pep into the hobby.

In 1945 Thomas M. Galey of Owensboro, Kentucky, wrote me a very nice letter. From this beginning our acquaintanceship grew until a year ago he offered to lend me his magnificent collection of negatives, all made between 1900 and 1909, and showing a large number of early American cars in scenes which cannot not be duplicated. In my opinion these negatives are gems of Americana.

The photographs on these pages are



all from this collection. The original photographs were made by Galey and his boyhood friend, Thomas Hartley. In college both boys acquired cars. Galey was perhaps the first American youth to own his own car—a single cylinder Winton Phaeton that was given to him by his father.

An excerpt from Galey's diary of September 22, 1900, reads: "Tom Hartley announces successful tour to Dunkirk, N. Y. He started Friday and arrived Tuesday. Many slow-downs were caused by frightened horses." The make of the car Hartley drove is not given, nor the starting place of the "tour." It is plain throughout the diary that both boys were enthusiastic about automobiles and lost no opportunity to drive them near and far.

Their enthusiasm for cars was matched by that for photography and it is no wonder that this collection of around 400 negatives came into being. While the subjects and scenes are themselves interesting, it is added fortune that the negatives were so carefully preserved in all their original sharpness and clarity.

Only one difficulty came up in enlarging them. The old-style thin film did not have the non-curling attributes of present day film and when the heat of the enlarger touched them they immediately curled up as tight as a pencil. I now tape the edges of these early negatives and secure them between glass plates to make the enlargements.

*Continued on page 119*

A WHITE STEAMER halted for a switch engine, opposite, presents a rear doorstep to a ride-minded boy. Notice that in spite of relatively slow film speeds, each picture is completely unposed. In stalls reserved for automobiles, above, two Packards provide grandstand seats for spectators at an "aeroplane exhibition" in 1910. The 1907 sportster who let his Packard runabout (note the right hand steering wheel) get off the pavement (top, center) was in for shoe scraping later—much later. A not so cool "air-cooled" Franklin, below, drew kibitzers the same then as an atom motor would now. Plebian guests arriving at an Ormond-Daytona Beach Hotel (right) is an elegant Pierce Arrow are so-o-o aware of their balcony enviers. The sign gives the picture its *coup de grace*.





## Names make news



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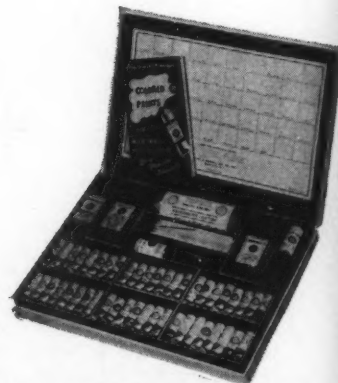
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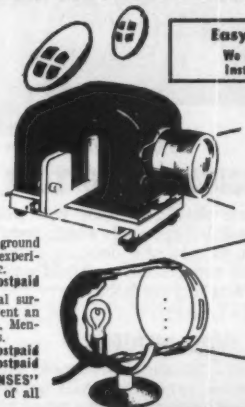
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## photo markets

### New Market

*Friends Magazine*, 4-105 General Motors Bldg., Detroit 2, Michigan, an attractive, pictureful publication circulated by Chevrolet dealers, appeared on the scene recently. It purchases picture stories from freelancers. John H. Warner, Managing Editor, writes us: "Our requirements for publication are: that the story has not appeared before, it of broad, general interest, and the photographs are of high quality; technically and reportorially. Photographs must be accompanied by releases signed by all persons appearing in them, and all releases must show that the minimum legal release fee of one dollar has been paid." They prefer to buy exclusive rights on all photographs, which includes the right to grant other publications permission to reproduce them if the occasion arises. When exclusive rights are purchased however, they also pay for materials, in which case the negatives become their property and are filed in their office. In nearly all cases in which they buy exclusive rights, the work is done on an assignment basis, although exclusive rights to work submitted on speculation have been purchased. *Friends* also buys "first rights only"—at a lower rate.

### Small, Specific

The State Highway Dept. of Wisconsin is looking for industrial scenes of Wisconsin for its 1950 Road Map pictorial section. Subjects may be of any Wisconsin industry of good pictorial quality suitable for reproduction by offset lithography, and the type of industry may range from cheesemaking to lake shipping, just so the scene is laid in Wisconsin. Payment may range from \$5 to \$10 according to suitability and quality of print. Deadline will be in December or January at which time the layout is prepared for the publisher. Mail entries with return postage to L. E. Blair, 605 Sheldon Street, Madison 5, Wisconsin.

Continued on page 135



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For negatives up to 2 1/4" x 3 1/4"

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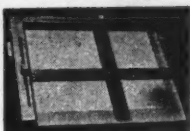
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## 11"x14" SPECIAL ENLARGING EASEL

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## 35MM F3 BAUSCH & LOMB WIDE ANGLE LENS FOR LEICA

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E3 S.W. matte	500 Sheets	17.50	15.75
EE1 D.W. matte	1 gross	6.25	4.95
EE2 D.W. matte	1 gross	6.25	5.50
EE3 D.W. matte	250 Sheets	8.95	7.95
EE3 D.W. matte	1 gross	6.25	5.50
GG3 D.W. lustre	1 gross	6.25	5.50
	4 x 6	WAS	NOW
F2 S.W. glossy	500 Sheets	4.75	3.49
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# Pictures

*Our State Department  
is waging a  
world-wide photographic  
peace offensive*

By GRANT CANNON

On a street in the heart of bomb-shattered Warsaw a man stops to glance furtively at a display case with a panel of photographs showing the construction and the interior of an American home. After ten years of occupation he knows that it is foolish to show an interest in foreign pictures, but one must look through the window to freedom occasionally to keep up courage. At the American Embassy there is a photo display on modern architecture, the subject nearest his heart, and there are American magazines there to be read, but a family man would not dare go there. A few boys in their early teens slip in and out, to them it is a great adventure to fool the security police, but they are foolhardy. He is glad that the Americans were clever enough to show some of their pictures on the street where a man could look at them without too great a risk.

In Lima and Baghdad, Oslo, Rangoon and Ankara these same photographs are being displayed. In friendly countries they are viewed openly and discussed critically. In other countries they are glanced at stealthily as people walk by.

To millions of people throughout the world Americans are capitalists with bellies that hang over the knees, or gun toting cowboys, or gangsters with a cigarette hanging out of the side of the mouth. These

IN WARSAW, although your shoulders are stooped and your pockets are filled with good news of the activities of other comrades, it still is good to take a look at the pictures from America. A man can dream, can't he?



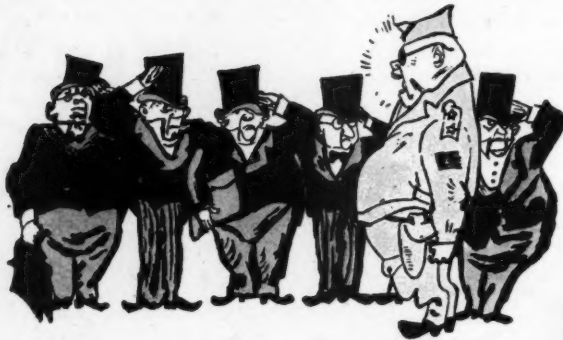
*sell peace*







THE PROPAGANDA magazine, *Kerempuh*, imagined President Truman saying to General Marshall, right, "Damned, those Russians are uncompromising, they constantly plead for peace." The Acme photographer caught them, left, as hopeful and serious men looking for answers to world problems.



WHEN General Osborne, right, was appointed U. S. representative to the U.N. General Assembly *Kerempuh* pictured him with sidearms calling to other delegates, "Attention! . . . for the American proposal voo-tel!"



AN AMERICAN COWBOY, left, photographed by Arthur Rothstein, riding herd on a Montana cattle ranch, is seen by a Yugoslav paper as a gun-toting American observer supervising an Italian election. The Italian guard is saying, "Don't be afraid, vote freely, the gentleman is just an observer."





LEFT, an American capitalist, complete with Czarist braid and buttons doing business with a foreign capitalist, as pictured in *Crocodile*, the Russian humor magazine. Right, R. C. Stobert of the Hardie-Tynes Company of Birmingham, Alabama, shows blueprints of equipment to a French purchaser. Birmingham, Ala., News Photograph.



## Americans as foreign cartoonists see them —and as they are



OMAN L. VAN DYCK'S photograph of a country doctor, left, looks as though it might have been used as basis for the cartoon in *Crocodile*, Russian humor magazine. In the Russian version the doctor is saying, "Your money or your life."



are the caricatured figures that have been used as symbols of America. Today, thousands of photographs sent out by our State Department are showing the American people to the world. Showing them human beings that might well be their friends. Though few photographers realize they are doing it, they are supplying one of the principal tools that are being used to shape world peace.

In the first years after the war it was hoped that we could present our way of life to the world through our magazines, newspapers, and picture and press

agencies. The dollar-poor world, however, could afford few of our magazines and we found ourselves slipping behind all of the other great nations in our effort to present a picture of ourselves. To counteract this trend congress passed the Smith-Mundt act which created an Office of International Information and Education Exchange as part of the State Department. A propaganda bureau? Yes, with the best motives in the world. We are now determined to tell the world our side of the story. This section of the government attempts to reach the people of the world



IN HIS photographic story about the Consolidated School System near Cato, N. Y., (distributed abroad by our State Department) showing the schooling of farm children, Joe Munroe picked out these side-notes of human interest. To illustrate free enterprise, he pictures the farm women above who worked up a nice home business producing corsages for the Senior Prom, which will be sold to the students for \$1.00 apiece. Above, Gene Eichen, one of the customers, pins one on his best girl, Eleanor Clark, the night of the big dance.

through Voice of America radio broadcasts, through daily and bi-weekly news summaries to editors, through motion pictures on American life, by exchanging students and teachers, and by sending them photographs and more photographs.

Anyone who is under the impression that the State Department officialdom is made up of striped pants tea drinkers should visit the photographic branch of the International Press and Publications Division. Housed in a red brick Treasury building that is old enough to be made into a national monument this branch operates in its shirt sleeves at a newspaper office tempo. Here 2,000 prints a week pour in from hundreds of sources to be inspected and culled for usable material. From its photo lab 20,000 prints a week are produced and sent to all parts of the world. Sections of this office write and find illustrations for photo features that are sent to the world's newspapers; produce film strips and lectures that are shown in the schools from Africa, Indonesia and Scotland to Denmark, Spain and Australia; and assemble photographic shows that are displayed in our foreign offices, libraries, shop windows, and, in printed poster form, on fences and buildings around the globe. The acquisi-

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A STARTING POINT for democracy. The student council meeting at the Cato School brings class officers together to present their ideas on student activities. Right, the Ag. class develops hand skill in putting horse-drawn mower together. Below, Caroline Ramsey's picture of the Sioux Falls, S. D., election vote counting is typical of the pictures distributed by our State Department showing the world how Americans live, work and exercise their democratic privileges.



tion section of this office has a full time job scouring the United States for photographs to be used in the work. In New York City another branch of the division edits and illustrates the handsome magazine *Amerika* which is being sent to Russia and Czechoslovakia.

"If we can delay war even for a few days," says Howard Flynn, head of the Feature Photos Section, "our work would pay for itself. But we are out to do a bigger job, we want to play a part in averting war

altogether." Flynn is a tough-minded picture editor with thirty years' experience on the *New York Times* and press syndicates behind him. His job is to send out three or four picture stories a week that tell how Americans live and how our democracy functions. His stories, which range from the Berlin air lift and the western hay lift to the face-lifting of American Farms are illustrated with six to fifteen photographs that will tell the story. Like most of the product from other sections of this branch, his illustrated stories go

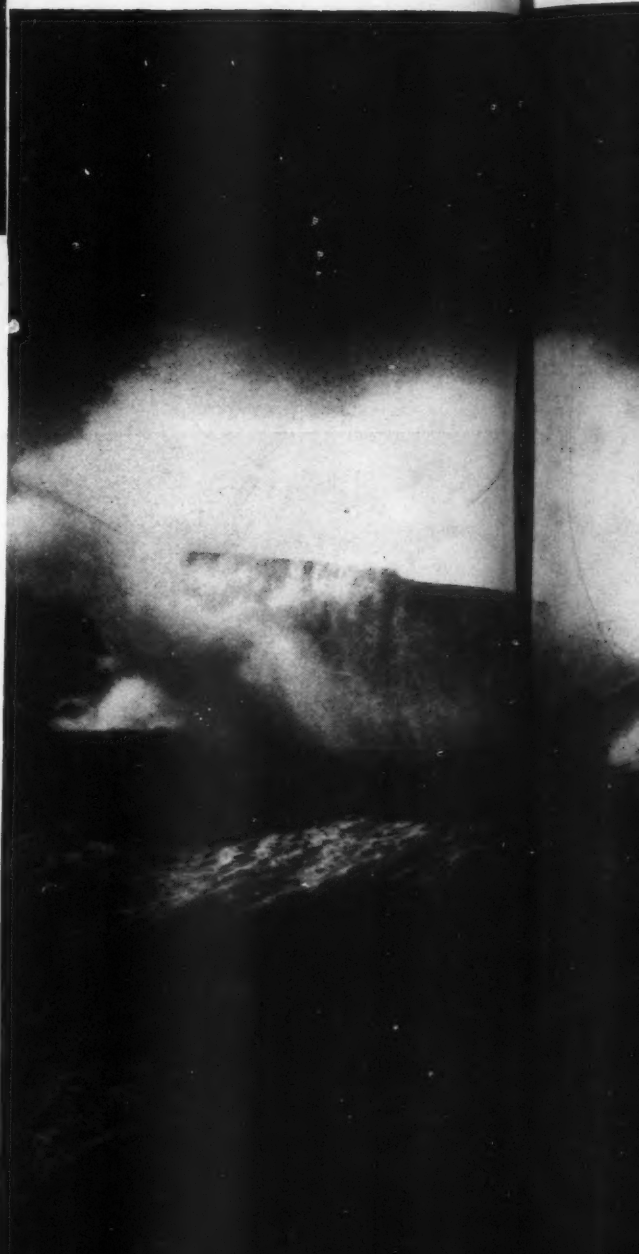




THE SEAFARING NATIONS of the world wanted to see what Americans could do besides raise wheat for the hungry mouths of Europe. These dramatic pictures of a rescue at sea by the Coast Guard were received with great interest. Would the Russians pick up the single picture at the left and caption it, "Brutal punishment of American sailors who were dragged in the water for six hours for failing to salute the Captain"? Questions like these always have to be considered by our State Department in making picture selections for foreign release.

to the information officer of our embassies, legations and consulates throughout the world. The information officer then offers them to the editors of the local papers. With newsprint at a premium in most countries these picture stories have to be good to compete with the news and hand-out material that pours onto the editor's desk every day. The thousands of clippings from foreign papers that are sent back to this office show that we are hitting the mark.

Most of the stories that come out of this section go to all parts of the world, but they also produce features that are of interest to one country or to a small group. One such story was turned up by an information officer in Rangoon. He heard that King Mindon of Burma had written a personal letter to President Buchanan in 1856 asking for a treaty of friendship. He suggested that a story on this letter would please the Burmese. A search of the archives uncovered the original hand illuminated letter of the King and a photo feature story was built around the letter and the National Archives of the United States. A further search produced a hand written copy of the reply by the President addressed to "His Majesty the King of Ava, whose glory is like the rising sun, ruling over the Kingdoms of Thu na pa yonte—Ton pa de pa—and all the Eastern Principalities, whose Chiefs walk under golden umbrellas; Lord of Saddan the King of Elephants; and Lord of many white Elephants, whose descent is from the Royal race of Alompra." These two stories and pictures were carried on the front pages of the nine Rangoon dailies, and were a sensation to the Burmese reading public.



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To reach the small newspapers that have no equipment for making engravings, the State Department makes plastic cuts of four or five of the best photos in every picture story and sends them out with the story. This is an old technique that was used by both the Allies and the Axis during the war and is now serving the cause of peace. Some editors rewrite the stories that accompany the pictures and others print it as it comes. One Portuguese editor printed every word that was sent even to the statement on the caption of the plastic engraving "This picture not to be used in cities of over 200,000."

Through the newspapers and magazines of the world the photo features reach perhaps the largest audience of any of our information media.

Another important way we are showing the activities of Americans is through film strips. These 35mm strips are made with 50 to 75 photographs that tell the story of some particular phase of American life such as free public libraries, milk—from cow to consumer, infant and child care, or museums of science and industry. To show these strips the government has acquired 5,000 projectors, some electric and some illuminated by gasoline lanterns for rural use. The information officer at the embassy or consulate arranges with the minister of education of the foreign country to loan the projectors to schools and libraries and to supply them with the two or three strips a month that are produced. Some projectors and strips are loaned to private individuals for





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showings in their homes and some are loaned to lecturers for touring the country. One report from the field gives an idea of how the strips are used. The information officer in Beirut writes, "The system used is that 75 schools in small towns and villages throughout Syria and Lebanon have been loaned filmstrip projectors. One filmstrip remains with each school one week, and each filmstrip is then moved on to the next school on the route. Reports from schools which have the 75 projectors showed that the filmstrips were viewed by 84,222 persons in November."

Elizabeth Lundell, who heads the section, tells of a man in Hankow, China, who had been loaned a projector. He wrote, "My house is situated on a rather

quiet street, and it so happens that one of the front windows faces a whitewashed wall across the street. That day, both ends of the road were blockaded for repairing. Somebody suggested giving a show from the window, using the opposite white surface as a screen. Unexpectedly, a crowd of approximately 1,000 was collected, people of all types. Many of the spectators came into my house and requested a program every day. They expressed the idea that it was the simplest and most interesting way for them to get an outline of the passing international events. 'We cannot afford to go to a movie, and the time will not allow us to do so either, but as we can spend half an

*Continued on page 104*





WASHINGTON EVENING STAR



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NEW YORK TIMES





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WASHINGTON EVENING STAR



DEPT. OF STATE—O'DONNELL



THE BERLIN AIRLIFT, left, made the point in photographs and tons of supplies hauled that Americans could take on a job and stick to it in CAVU or Zero-Zero weather. When the western blizzard haylift pictures showed Americans running a similar operation at home at the same time the world was convinced. Above, left, the photographs are started on their way to a picture conference. From left to right the State Department Section Chiefs are: Harry Cosler, Eugene Brown, Mrs. Elizabeth Lundell and Howard Flynn. Above, right, when the heat is on, and it usually is, the photo-lab can turn out 400 prints a day. Then the prints are collected and wrapped for shipment to the cities of the world; Baghdad, Rangoon, Athens, Casablanca—and elsewhere, as mailbag markers indicate.



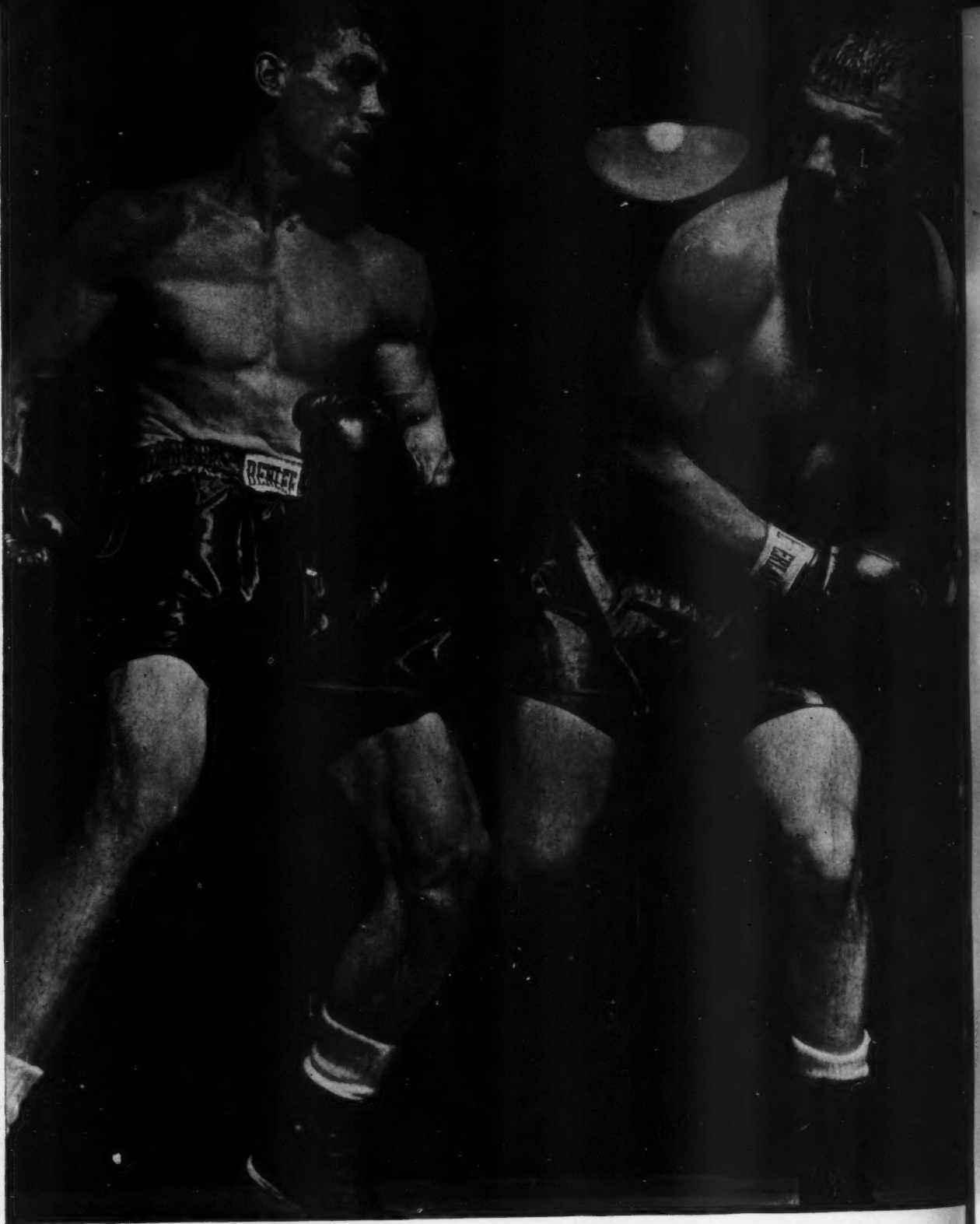
CARNIVAL in Nice by Earl Leaf

## four modern pictures

IN HARLEM, two street musicians make music with a guitar and an improvised bass viol. Photographed by Richard Saunders, of the new Negro magazine, *Our World*.







STANLEY KUBRICK, *Look* Magazine photographer



# Is your lens SHARP?

*An expert tells how you can check your  
camera lens with home equipment*

As far as most of us are concerned, a splinter of glass from the Palomar mirror would look pretty much the same as a sliver of glass from a broken window pane. We seldom think of various types of glass as differing as much as a diamond differs from the stones in a creek bed. Did you know, for instance, that some glasses rust? Or that others can be etched by certain fungi and molds? Or that some glasses are so soft that they can be scratched by the softest of cleaning materials?

A lens designer owes some of his gray hairs to even greater variables that he must consider in choosing the lens glass for your camera. In this article we will touch upon a few of the glass problems that bear upon the quality of your lenses; but for the most part we will talk about testing your pet lens for common aberrations with equipment you can improvise. Should you want to go deeper into lens testing, you will find a list of references at the end of the article.

## **The Physical Dimensions**

In general there are but two precisely definable dimensions of a lens. They are (1) focal length and (2) relative aperture.

The focal length of a lens is the distance from the exit pupil (or second Gauss point, second principal point, second nodal point—all synonymous for practical purposes) to the image *when the object is at infinity*. The approximate focal length of a lens is a fairly easy quantity to determine. Merely set your lens up and focus it on a star, the moon, or, in daylight, on any distant object. Then measure the distance between the iris diaphragm and the image plane. This distance is the approximate focal length of the lens.

The question that immediately pops up is "Why approximate?" The answer is simple—the iris diaphragm of a lens is seldom located at the exact exit pupil of a lens but usually, at least in a conventional type lens, near the diaphragm. Since the exact position of the exit pupil cannot be located without special equipment, the diaphragm is used as the nearest point of reference.

Relative aperture is the other precisely definable dimension. It is the ratio of the focal length of the lens to its maximum effective diameter or the diameter of the entrance pupil. The diameter of the entrance pupil is fairly easy to measure but again, without special equipment, one must be content with an approximation. Set the aperture to its largest opening and lay a ruler across the front of the lens. Measure the apparent opening of the diaphragm. Then divide the focal length by the diameter to find the relative aperture. Again the answer is only approximate because (1) the focal length is only approximate and (2) the effective diameter as measured with a ruler can only be approximate.

A word of caution to those measuring focal length and relative aperture. It has long been the custom for optical manufacturers to specify these values in round numbers. For example,

FORMATION of an image, Fig. 1. Rays of light from an object traced through the lens at various distances from the center of the lens are not reimaged at a single point. Instead of a point image there is a blur, the effect shown at the right. The dark center spot represents the image of a distant point source on the axis; a gray halo is the effect produced by the presence of aberration. Spherical aberration is present to a certain degree in nearly all lenses.

Fig. 1

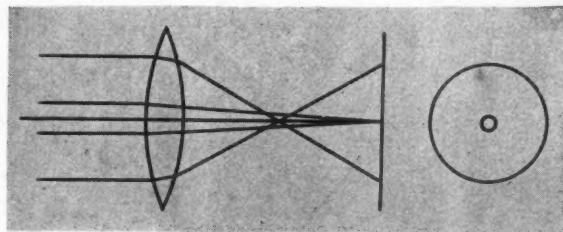


Fig. 2



By DONALD FARMEN  
Eastman Kodak Company



SPHERICAL aberration rarely shows up in outdoor pictures because with abundant natural light a lens is seldom used wide open. When residual spherical aberration does occur, negatives of very contrasty subjects may have the appearance of over-all fog. Stopping down the iris diaphragm about two stops will reduce spherical aberration to the point at which it is not noticeable.

*Photo: Andre de Dienes.*



many lenses marked  $F:4.5$  may be  $F:4.25$  or they may be  $F:4.75$ . This is not a case of the manufacturer trying to mislead the public—it is merely following well established custom. The same is true of focal length. A lens may be marked as being of a certain focal length while actually the focal length may vary by several points. Here again, it would be a gross injustice to the manufacturer to regard the discrep-

ancy between actual and marked focal length as misrepresentation rather than custom.

### The Equipment You'll Need

The primary function of a photographic objective (the correct name for a camera lens) is to "take a good picture," that is, to render a good two-dimensional image of a three-dimensional object. To produce such an image, the lens must be reasonably free from certain faults known as aberrations. The quickest way to tell whether a lens is free from aberrations is to take a picture. If the picture is satisfactory, then the lens is probably free from aberration. If this method seems over-simplified to you and you can dream up a better method, your fortune is made. You have made a better mousetrap and lens manufacturers will beat a path to your door.

Assuming that your lens was made by a reputable manufacturer and that it is in reasonably good condition (no deterioration of the surfaces, no element separation due to cement failure, and there are no evidences that the lens has been taken apart or tampered with) there are only two reasons for testing it. (1) You feel that the results that you have been getting with it are not up to par or (2) you just plain want to play. Either reason is valid and with the simple equipment described below, you can test to your heart's content.

Your basic equipment for testing a lens should consist of a reasonably good test camera and a rigid

Fig. 3 FORMATION OF A COMATIC IMAGE

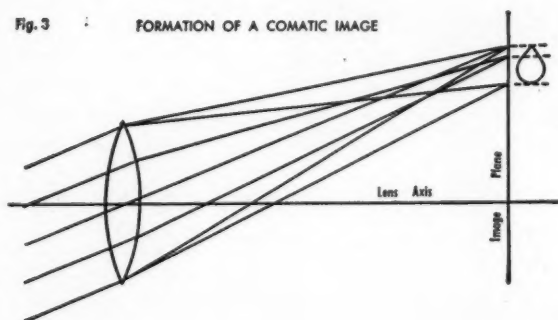
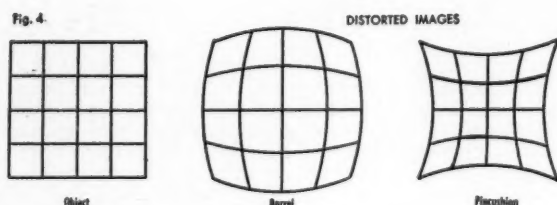


Fig. 4





TWIN-LENS REFLEX



SPEED GRAPHIC

stand for it, a test object, suitable illumination (assuming that you are working indoors), a piece of extra fine ground glass for the test camera, a good magnifying glass of at least 10 power, and a supply of film or better still, photographic plates.

For your test camera, you need a view camera. The short dimension should be no less than the focal length of the longest lens you will be testing. For example, an 8 x 10 camera can be used for any lens having a focal length of 8 inches or less. Needless to say, the camera must be rigid and the front and back must be parallel to each other both up and down and crosswise. You must have a rigid support for the camera. *This is most important.* If your tripod isn't rock-steady,—use a sturdy bench. In making test expo-

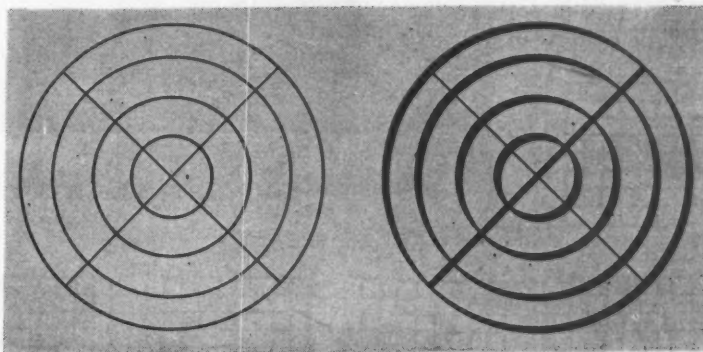
tures, the slightest movement of any part of the set-up will give misleading results.

Finally make a lens board to fit the front of the camera that will take the lens to be tested. Fit a piece of extra-fine ground glass in the camera back so that you will be able to make the critical focusing adjustments that will be required. The grain of the glass must be fine enough so that it will not mask the sharpness of the image when you focus with the magnifying glass.

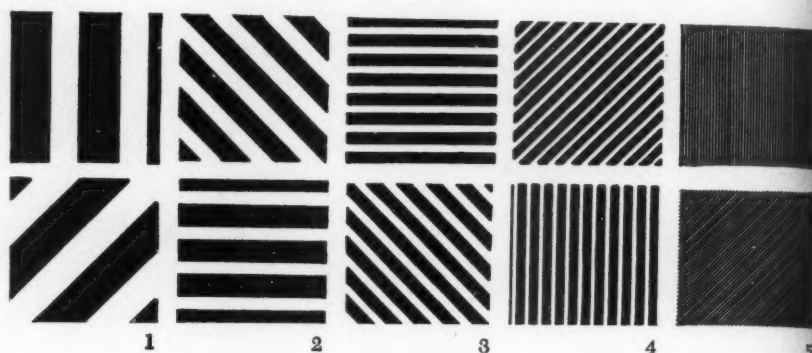
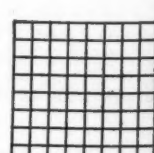
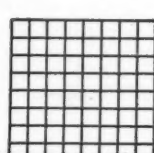
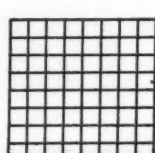
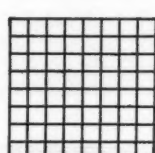
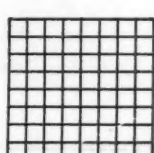
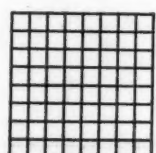
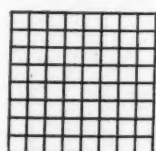
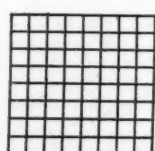
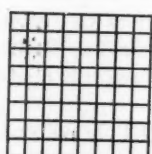
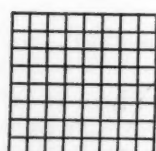
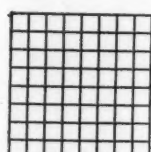
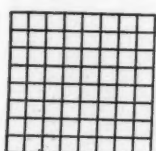
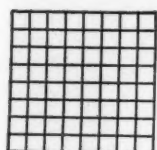
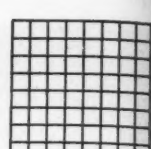
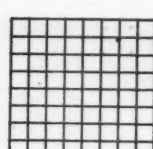
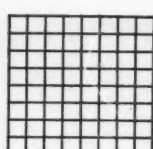
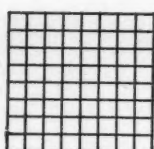
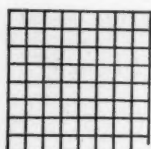
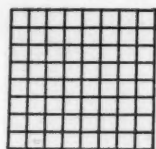
For a test object, use a large sheet of light-colored wall board such as Celotex. It must be flat. If it isn't flat, make a support of wood for it. On the test object you will fasten the target accompanying this article. Or if you prefer not to damage your copy of *MODERN*,

Fig. 5

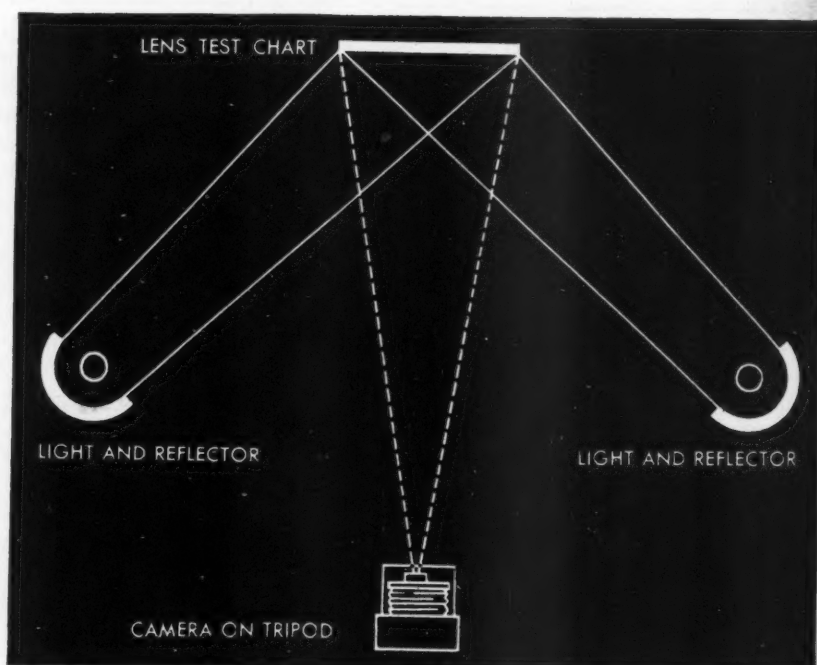
FOUR comparison shots, above, of a subject photographed with different lenses. The box camera had a simple meniscus lens; the folding camera had an anastigmat lens; the reflex camera was equipped with a Zeiss Tessar, and the Speed Graphic had an Ektar. Photographer Mark Warren fudged a little by popping a flashbulb on the Graphic shot. He can't explain why except that he was "in the mood." While the flash did not alter the definition of the lens, it did produce a brighter-looking picture. All pictures were made at about 1/25 sec. at F:16, on pan films of the same emulsion speeds.







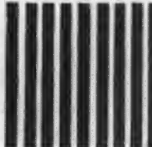
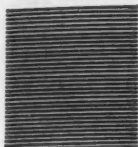
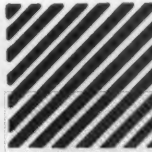
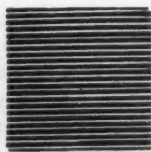
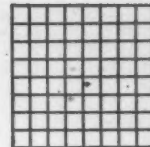
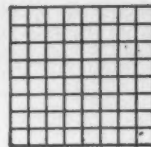
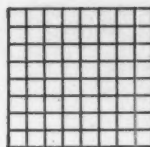
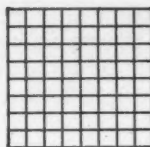
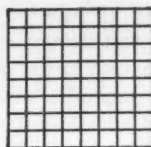
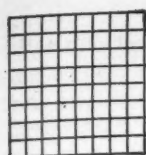
# *Lens testing chart*



HOW TO POSITION LIGHTS, CAMERA, AND LENS TESTING CHART

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Clip the chart out and mount it on a sheet of flat cardboard. (If you prefer not to clip pages from the magazine, charts printed on heavy paper are available from MODERN, price \$1.00.) Hang the chart flat against a wall and place the camera directly in front of it at a distance of 11 focal lengths away (see text). Two lights of equal intensity, mounted in reflectors, should be aimed at the chart from 45° angles at distances no less than 3 feet away. Open the camera lens to its widest aperture and focus sharply on the test blocks. Test exposures can be made on any medium speed, fine-grain panchromatic film. The following table shows the resolving power of this chart when photographed from a distance of 11 focal lengths:

1. 0.02 inches	6. 0.0013 inches
2. 0.01 inches	7. 0.003 inches
3. 0.007 inches	8. 0.005 inches
4. 0.004 inches	9. 0.0075 inches
5. 0.001 inches	10. 0.015 inches

If, for example, you examine a dry test negative with a magnifying glass and discover that the finest lines which show up separately in the negative are those in row 6 of the test blocks, a glance at the table indicates that the resolving power of the lens used at 11 focal lengths is 0.0013 inches. In other words, at a distance of 11 focal lengths, the lens has the power to show distinctly separate lines spaced as close together as 0.0013 inches. By making comparison negatives of the resolving power at various other lens openings, you can completely calibrate the resolving power for your lens at every stop. The marginal squares on these pages should appear on your test film as they do here. If they don't, your lens may have spherical aberration; see page 36.

Place data for permanent record here. (Make extra reference cards for other lenses.)

CAMERA \_\_\_\_\_

LENS \_\_\_\_\_

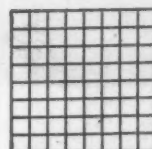
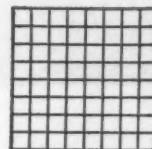
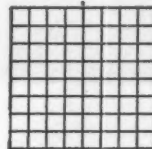
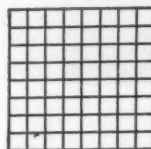
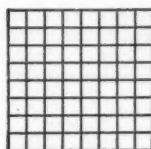
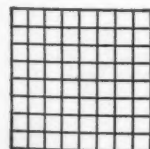
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the target can be sheets from a calendar with large, bold, black figures, or pages from magazines with a mixture of large and small type, etc. Whatever you use, be sure that the characters are sharp and have good contrast with respect to the background. At regular intervals over the face of the test object you will be placing special targets of one type or another. These special targets will be described in connection with the aberration that they will be used to detect. A word of warning in connection with targets. Be wary of photographic enlargements. Such targets may have been made with an enlarging lens suffering from the very aberration that you may be testing for. If the target shows the aberration, then the test print will show it too, even if the lens being tested is free of the aberration.

Very excellent test targets can be purchased from photographic dealers. If these are used, you will save yourself the fuss and bother of making your own, and besides you will get a lot of valuable help and information from the instructions accompanying the chart. If the instructions with the test target you buy disagree with this article, don't worry about it. Just remember that differences of opinion make horse races. Your best bet is to use your own good judgment.

### Setting Up The Test Equipment

Having selected a test camera and test object, the next step is to set them up in the proper relative positions. In setting up, remember that the camera front and back and the test object must all be exactly parallel to one another. The distance from the test object to the camera is arbitrary. However, remember that in general the shorter the subject distance, the more apparent are the aberrations. Most camera lenses are designed to work at about 25 feet. When the object is closer than 5 or 6 focal lengths, test results will not be too indicative. It is suggested that a working distance of about 11 focal lengths be used as a compromise between best definition and ease and convenience in working. If your test chart calls for some definite magnification on the film (as all resolving power charts do) the distance can be figured as follows: The distance from the test chart to the lens is equal to the reciprocal of the magnification plus one focal length. Thus, if an image magnification of  $1/25$  times is specified, then the lens-to-object distance would be 25 plus 1 or 26 focal lengths. The suggested distance of 11 focal lengths will result in a magnification on the film of  $1/10X$ .

*Continued on page 131*



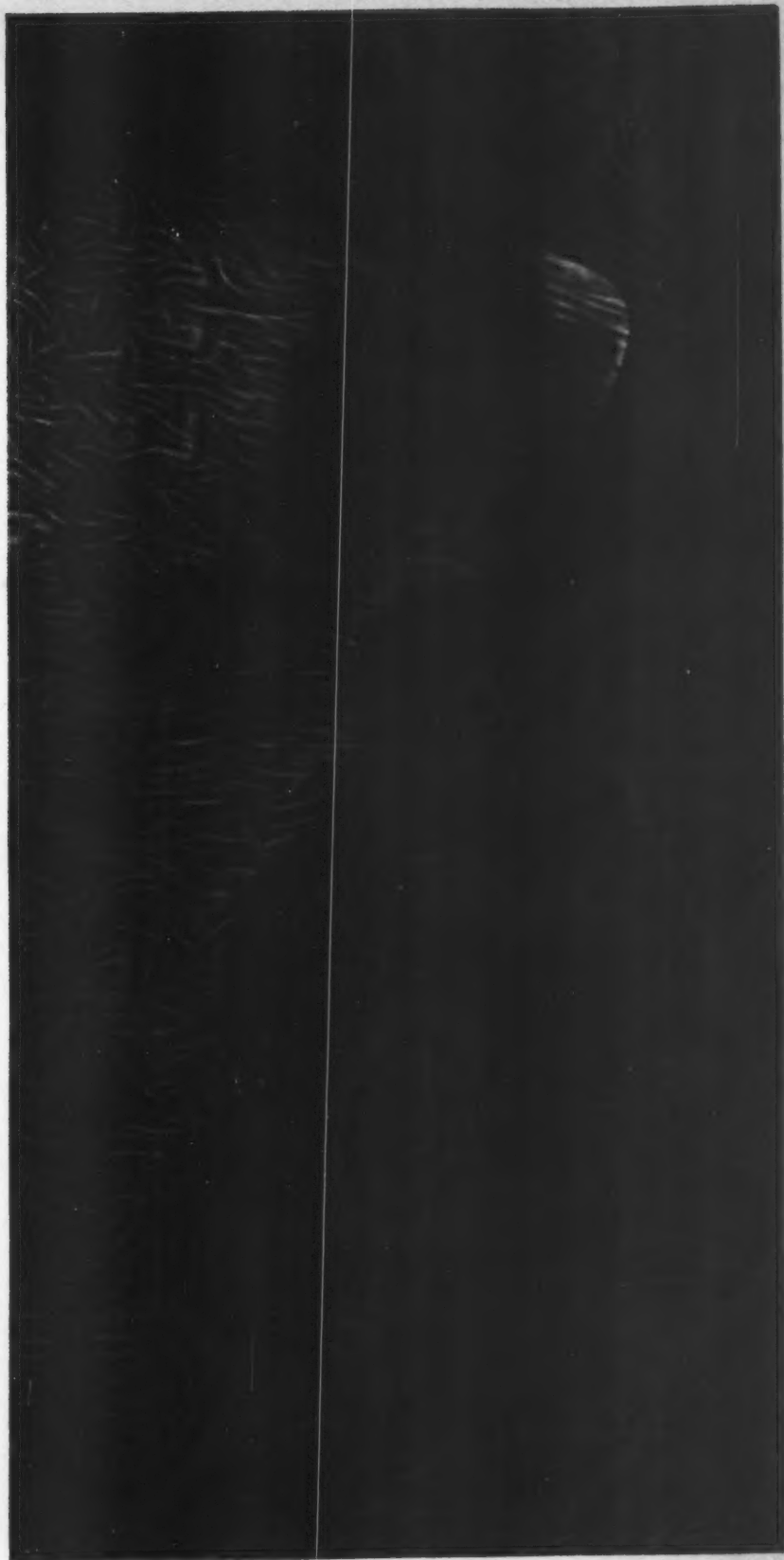
THE TERM "definition" refers to the ability of a lens to form an image with fine detail. Decreasing the lens aperture improves definition, but it also means that an exposure must be made at a slower shutter speed. To photograph sea gulls on the wing, Ragnar Peterson had to compromise between ultra-sharp definition and a shutter speed fast enough to stop most of the action. When shutter speed is unimportant, a lens can be stopped down for ultimate definition. Experimentalist John Rogers made the picture opposite by combining two sharp color transparencies with a third black-and-white negative that had been reticulated. The color transparencies were made with green and red edge lighting (from spotlights), then partially solarized by exposing to amber light.



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# ON THE B

*How to use blue flash bulbs to  
key the mood of your twilight color pictures.*



A. MILLER-F.P.G.

# BEACH AT SUNSET

Have you ever tried to make a color shot of a group of friends around a beach fire at sunset? This picture is a blueprint of the mechanical difficulties Ardean Miller had to solve in making such a picture. There is a lot to be said both for and against this particular solution. By discussing the less desirable elements as well as the exceptionally good points, we may be able to improve our own color shots the next time we try a similar setup.

The equipment needn't be elaborate. But while we will doubtlessly be using a small camera, we'll be fooling around with time exposures and they require a tripod. A flash-gun with an extension unit, an exposure meter and lens hood, some daylight color film, a color-compensating filter to experiment with, and a handful of blue flashbulbs should just about fill the bill.

The time of day we choose for making such a picture is most important. Mr. Miller wisely made his exposure about half an hour before the sun actually set. Then, by waiting until a cloud drifted in front of the sun, he had an ideal lighting situation. While the direct rays of the sun were diffused enough to prevent a "flare" in the lens, the sky and water were bright enough to register clearly with a stopped-down lens.

Notice how the subjects were arranged in this picture to make the most of the color tones of their clothing. That is important to remember. When you shoot in the dim light of semi-dusk you need every bit of color contrast possible—light against dark, and neutral next to color. So in working with your own subjects, pay particular attention to the different colors and designs in shirts, slacks, and even hair; try to get a varied placement within the composition.

If your subjects know each other well enough you can get them to bantering among themselves until they forget the camera. If there is a central focal point in the picture (toward which everyone is looking) make certain that it is worth the concentration it receives. Realism is, perhaps, one of the weaker points in the accompanying picture. The subjects lack the casualness of close friends. Moreover, the object being cooked is indistinguishable and it is hard to understand how four people could anticipate sharing a solitary morsel of food with genuine enthusiasm.

Once the general composition for your picture is decided upon, the next problem is that of exposure. Let us suppose that after studying the relationships of camera-to-subject distances within the composition, you decide that you will need at least F:8 diaphragm opening to get sufficient depth of focus. A direct exposure meter reading on the sky and water shows that at F:8 a shutter speed of 1 second is required for a normal exposure. Since we want to underexpose the sky a little to accentuate the sunset effect, we'll settle for  $\frac{1}{2}$  second at F:8, instead.

Our next problem is to bring the rest of the lighting into balance. The daylight present on the scene is insufficient for rendering any detail in the foreground. In order to supply more light we can place one No. 2 B flashbulb in a standard reflector about 8 feet away from the family group for a

*Continued on page 108*



# TRACER LIGHTS

Photography brings us facts that our eyes fail to see in the microscopic, astronomic, x-ray, infra-red, stroboscopic and time-exposure fields.

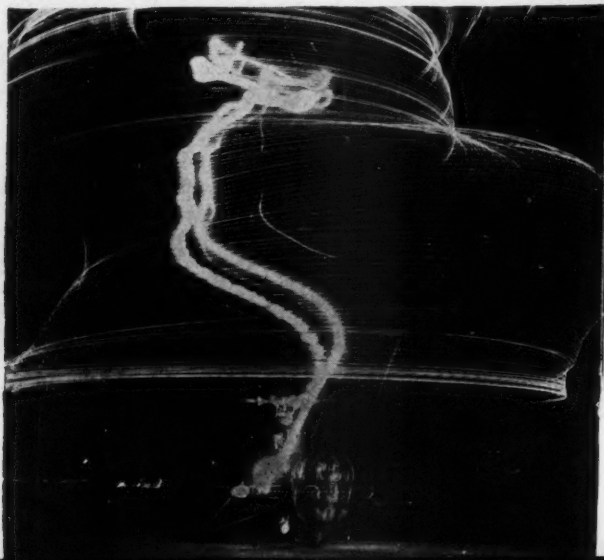
Exploring the various photographic techniques, the accumulative effect of light exposed on light sensitive surfaces is one of the most interesting phases of photography. Particularly rewarding is the relatively little known field of the tracer light. To define this idea more clearly, we draw lines with a moving light, in a darkened place, before an open lens, making a time exposure, so as to retain or accumulate all the various movements made by this tracing of light. James Brown, of Filmgraphics in Chicago, has coined the name "Tracergram" for this type of a photograph.

The motion of a machine or a person can be an exciting composition when it is recorded *continuously* by a camera, and in this kind of seeing the photographic process is superior to the eye. Such a motion is part of the night picture of the helicopter shown on this page. Andreas Feininger tells how he made it:

"Tracer lights are often difficult to use, because of the exposure timing problem. However, on one occasion I was in the unique position of being able to take a picture for the second time without ever having taken it the first time. This is how it occurred:

"Upon seeing the picture of a helicopter taking off at night (the small picture, below), the editors of *Life* had liked it so much that they wanted it for use in the magazine. However, like all editors, they preferred an exclusive version, and consequently I was asked to duplicate the shot. They showed me the original. At first glance it appeared exquisitely beautiful and fascinating. Upon closer and more critical study, however, I found it to have four serious faults: The pattern made by the lights attached to the tips of the

HELICOPTER take-off at night was photographed, below, by Stanley Tretick of Acme News, with a 4x5 Speed Graphic and right by Andreas Feininger, *Life* photo © Time, Inc. The egg-shaped white blur to the left of the spiral is the full moon.







### **What's happening in these pictures?**

The seven pictures on this page were made with the model facing the camera in front of a black background. On each wrist was taped a battery-powered flashlight bulb. These supplied all the light used while time exposures were made of the movements the model went through in brushing her hair, putting on a stocking, and so on. You might like to test your interpretative abilities by covering the rest of this paragraph with your hand while you try to identify the action in each picture. If you get stuck (as we did), the answers are as follows: 1. In this picture the model is putting on a girdle. 2. Here she is applying powder, rouge, and lipstick. 3. Putting on a skirt and blouse. 4. Brushing her hair. 5. Toweling after an imaginary shower (Imaginarily speaking, she must still be pretty wet). 6. Putting on one stocking. 7. Doing setting up exercises. Some of the movements were minimized to avoid a confusion of white lines, but all are basically complete. We would like to see some original tracer patterns made by readers.



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rotor blades was untidy; the flame of the exhaust traced a heavy blurred line across the picture; the ship itself was poorly defined; and it in no way looked like a helicopter.

"Having seen this unsatisfactory picture was equal to having shot the helicopter the first time. Starting out to do a better job was like getting that second chance, a definite and rather undeserved advantage. Now, of course, it was easy to avoid the mistakes of the photographer who had taken the picture. To improve the light pattern, I decided upon a definite course for the pilot which would avoid the untidy multiple-pattern of the previous picture: the ship was flown straight up—then slanting downward toward the right—and finally rising steeply toward and over the camera and out of the picture. To avoid the annoying exhaust flame from the left side of the ship, I had the right side of the helicopter facing the camera so that the exhaust remained hidden. Before the take-off, to



get a clearer picture of the ship on the ground, I illuminated it strongly with the floodlights of the hangar and gave it a time exposure of half a minute. And by having the ship turned sideways (to hide the exhaust flame) I emphasized the typical helicopter silhouette. The heavy white line was made by the helicopter's running light. At the time of the take-off, the running light was obscured by an auxiliary gas tank and did not become visible until the ship had risen above camera level. An additional undeserved effect is the moon which happened to be in just the right spot that night, and easily incorporated into the composition by shifting the camera a trifle.

"The picture," continues Feininger, "the best of a series of four, was taken with a Rolleiflex on Eastman Super XX film. An exposure of  $\frac{1}{2}$  minute at F:5.6 was used for the ship on the ground, after which the floodlights were turned off. The helicopter rose, and its rotor lights traced their path on the film for approximately  $1\frac{1}{2}$  minutes. The negative was developed in D 76 and printed on paper of hard gradation to make the light-pattern as clean-cut as possible."

The kinds of action and subject matter that can be recorded by tracer lights is only limited by the imagination of the photographer. The techniques of getting the most interesting photographic results vary with the type of action. An entire action cycle of a dance or a certain simple phase of a sport can be recorded. Let James Brown tell how he makes a shot

*Continued on page 126*



TRACER LIGHT photographs are often used to study the movements of athletes. The picture above of a girl just learning to serve a tennis ball, reveals errors that an experienced player could explain to her visually much better than by words alone. This picture was made with a flashlight bulb taped to each wrist (left) and a third bulb fastened to the end of the tennis racket. Insulated wires run from the batteries suspended in a cloth bag from the subject's back up to her shoulders and then down the arms to the bulbs. Adhesive tape holds the wires in place; one wire continues from the right hand down the handle of the tennis racket to the bulb on the end. The action was photographed against a black background with just enough additional light to illuminate the subject.

*Photos: James Brown.*

# CAMERA

## *with a view*

To the user of a view camera, the small pane of ground-glass set into its back is a magic window. By twisting a few thumbscrews, he can alter the appearance of a subject at will, fitting its image to his original picture idea. Practical-minded photographers have found this a way of showing their exacting clients the kind of pictures they want to buy.

Commercial illustrators, though, have no trade secrets about which thumbscrews will do the trick. Actually the view camera, which is used almost universally among them, is at the same time the most basic and most versatile camera made. It combines the fundamental simplicity of the box camera with an astonishing array of optical adjustments designed to handle every picture-making problem.

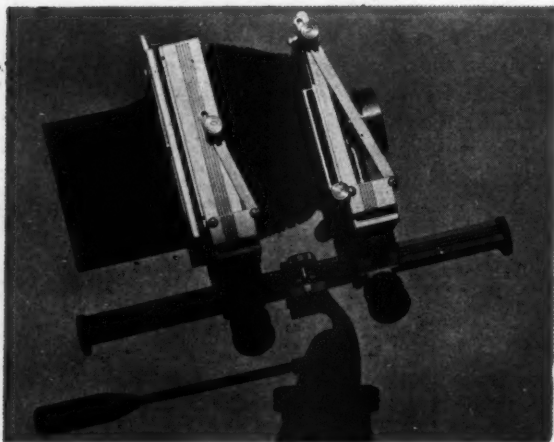
Reduced to brass tacks, view cameras are distinguished by three principal features. Only one is exclusive on this type, but all are necessary to its versatility.

First, all view cameras have a ground-glass focusing panel used for composition of the picture. To get this image the shutter has only to be opened on "time." The photographer sees exactly what will be

included in the negative, what areas will be in or out of focus, just how the lighting looks and what perspective the finished picture will have. Thus most of the picture planning can be done right at the camera, with a minimum of subsequent cropping, dodging and other corrective dark-room work. Where exactness is important, such as in planning a picture to fill a certain shape and space or in making a montage, the photographer can fasten a tissue tracing over the ground-glass as a template for setting up the shot.

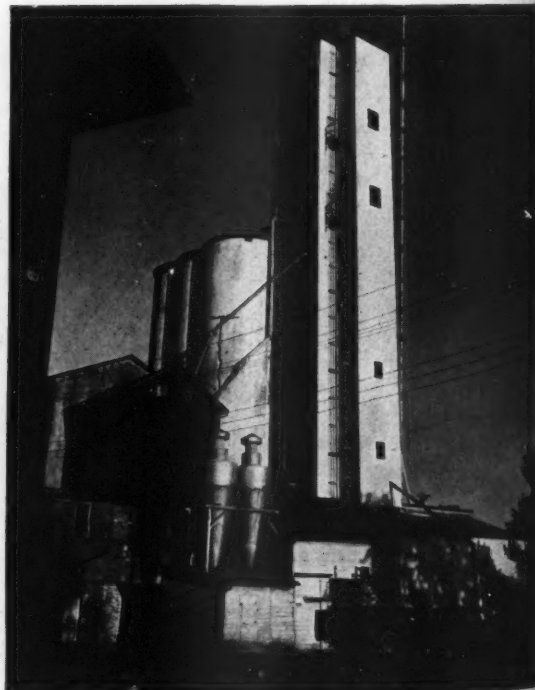
Use of large film size—4x5" up to 16x20"—is a second characteristic of view cameras. Ideal for retouching, easier to handle without special developers and darkroom facilities, large films can save many times their additional cost by reducing handling time and fussy attention. Since they permit contact prints for most purposes, critical detail is preserved and blemishes minimized. When desired, over-size enlargements can be made, even of small negative sections.

True heart of the view camera, however, and its most important difference, are the extreme adjustments that may be made in the relationship between

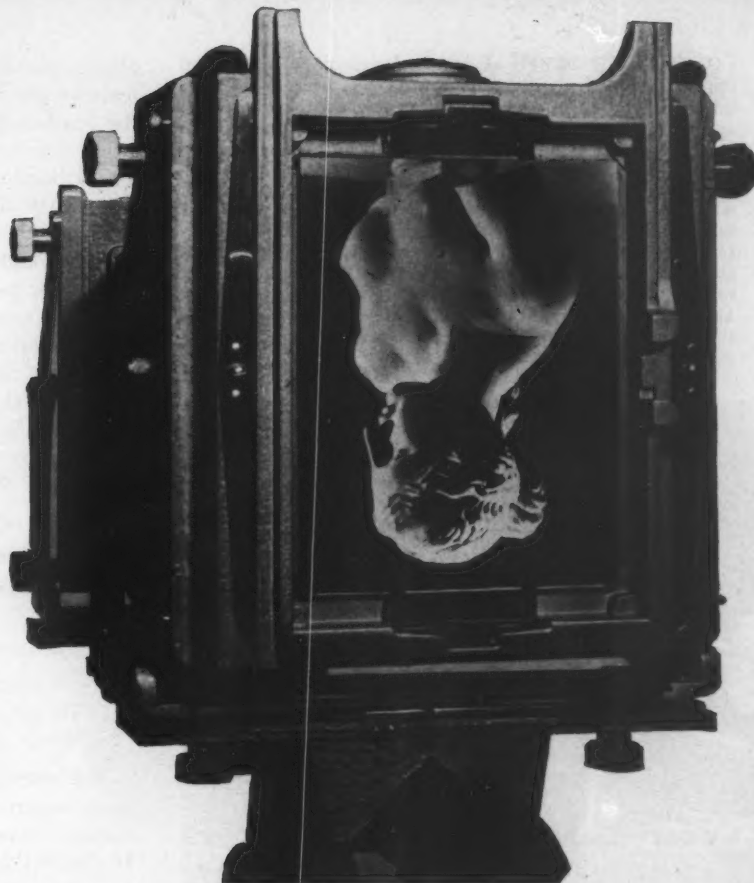


**A TILTED CAMERA** causes vertical lines to converge toward the picture top. This, of course, is not a peculiarity of lenses and cameras, but applies to the human eye as well. Subconsciously we compensate for perspective when viewing a tall building since we know its sides are parallel. When the scene is reduced to a two-dimensional picture, however, the exaggerated perspective becomes very annoying (right). Note particularly the precarious appearance of the smaller buildings to the left of the tall central tower.

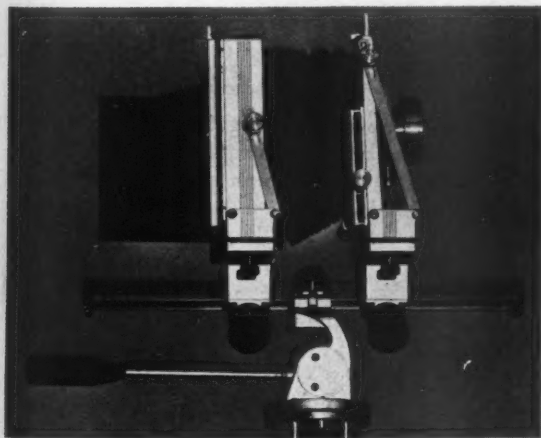
*Photos: Joe Munroe*



By T. T. HOLDEN  
Graflex Photo Director



COMPOSITION on ground-glass is one of the ingredients of successful commercial illustration. Photo by Roy Stevens.

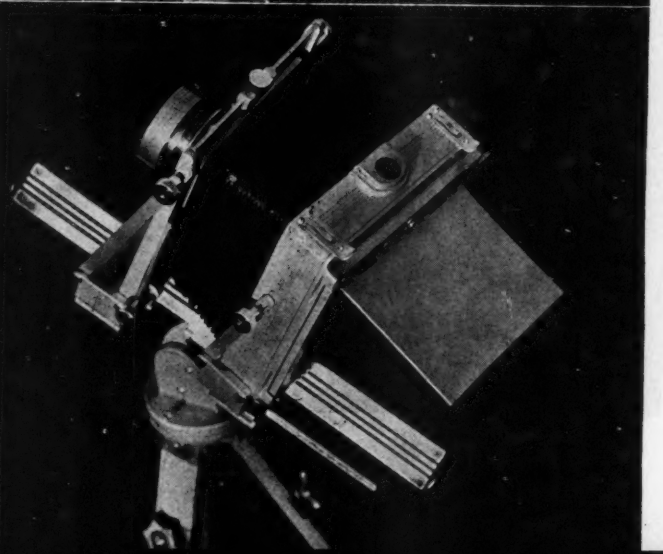
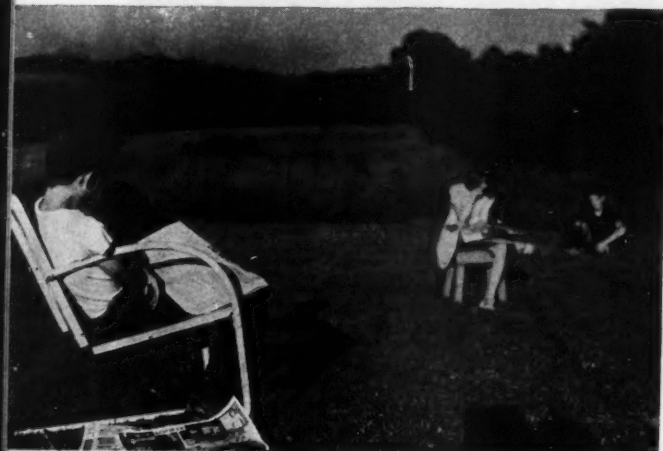


RECTILINEAR PERSPECTIVE is preserved only when film plane parallels subject plane. The view camera's rising front, above, is equivalent to a higher vantage point for the entire camera, and offers several unique advantages: (1) without tilting the camera, it cuts out foreground while giving more headroom; (2) strict parallelism of vertical lines is preserved; (3) both top and bottom of the subject are in sharp focus (which is not always the case when a camera is tilted). Focusing on a nearby building to "frame" the subject, as in the pictures of the grain elevator, can be done either by stopping down the lens or by using the view camera's swings or tilts.





**CONTROLLED DEPTH** of field is demonstrated by the two upper pictures, both shot with a wide-open lens. In the first, taken without use of camera adjustments, only the foreground appears sharp due to limited depth of field. In the center photo the same depth of field has been twisted to include all three subjects in the area of sharp focus. A comparison of the two shows that the left half has remained practically unchanged, while the shrubbery on the right has been brought into focus and the right foreground is now definitely out of focus. If correct perspective is important, the view camera's swinging front should be used rather than the swinging back, which is shown in action at bottom. **OPPOSITE:** The high key nude by Derald Martin is a typical studio view camera shot. The camera was tilted down, then the lensboard and camera back were swung vertical to correct perspective.



object plane, film plane, and lens plane. Three features are responsible for these adjustments. First, the lensboard may be raised, lowered or shifted to either side so that the optical axis of the lens is no longer lined up with the center of the film. The lensboard may also be tilted forward or back and swung so that either side is nearer to or farther from the film. Secondly, these same movements of the lensboard can be duplicated by the camera back which holds the ground-glass. The third feature is a bellows that can be extended from a few inches to a length equivalent to two or sometimes three times the normal focal length of a lens designed to cover the camera's film size. On a 4 x 5-inch Graphic View II, for instance, the bellows extend from 2 1/2" to 14".

Each of these features has a definite job to do.

The front adjustments serve two purposes:

1. To center the image on the film.
2. To achieve sharp focus over the entire negative area.

The functions of the back movements are:

1. To increase the effect of the front adjustments.
2. To control reproduction of perspective, or to create false perspective.

The extreme bellows extension permits use of a wide variety of lenses from ultra wide-angle through various "standard" focal lengths to large telephotos. It also enables standard lenses to be used at twice or three times their focal length for 1-to-1 or 2-to-1 copying of small objects.

The front and back adjustments frequently cause a newcomer to the view camera some confusion. Accustomed to equipment in which these parts maintain a fixed relationship, he can see no reason for the adjustments, nor any system behind their operation.

#### **Front Adjustments Give Versatility**

As a first step in simplifying these mysteries, let's take the classic, but still adequate, example of the man who wants to photograph a tall building. Having selected a camera position, he finds upon inspecting the ground-glass that the top three stories are missing from his picture. One solution might be to back up to make the image smaller. But he has too much foreground in the picture already, and there is no way of elevating his camera thirty or forty feet for a better viewpoint.

So our friend tilts his camera upward to get the three top stories in his picture and cut out some foreground. The parallel sides of the building immediately converge on his ground-glass to make the structure look like a pyramid ready to topple down upon him. That's obviously not good for his purpose—but it teaches him his first lesson in the effect of back movements on a view camera. He finds that parallel lines retain their true perspective in a picture only

*Continued on page 118*

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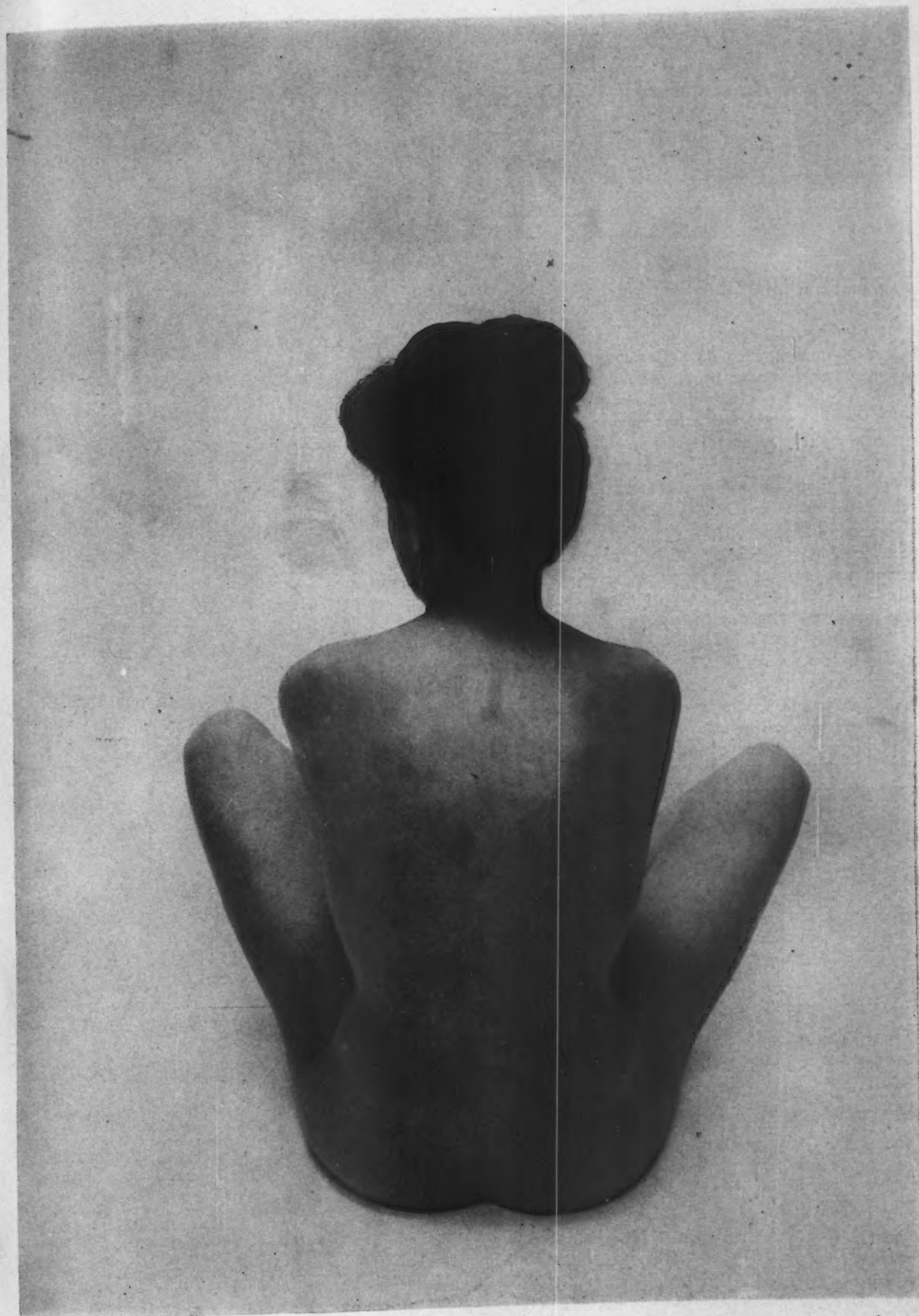
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# Does it pay to turn **PRO?**

By GEORGE R. HOXIE

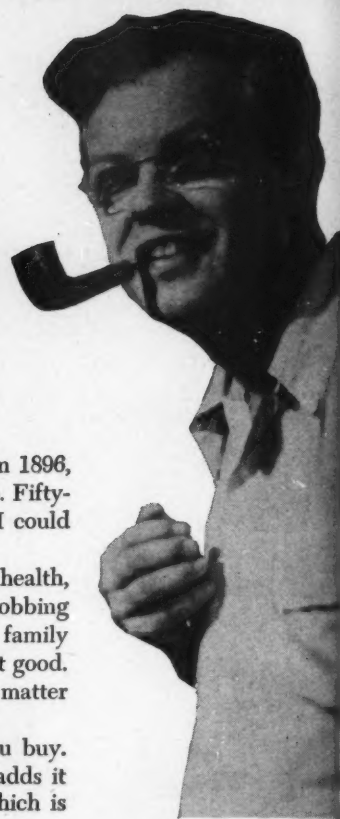
When my competitor, Frank Snyder, opened up shop, here in Oxford, Ohio, in 1896, he had \$10.00 in cash and paid \$6.00 a month rent for a Portable Picture Studio. Fifty-three years later, I opened up on the opposite side of the street, to see what I could do on my own as a photographer, having been an amateur for some time.

Mr. Snyder did pretty well. He is now a sprightly man of seventy in good health, with grown children, a bundle of real estate, a portrait studio and a photo-jobbing business. He belongs to all lodges, knows everyone in town, and he and his family grew up with enough people in this little village of 3,000 people to sew it up, but good.

In the village of Oxford, Ohio, I immediately discovered, free enterprise is a matter of hustling and haggling.

You hustle to get business, and you haggle to get lower prices for what you buy. When you stop hustling and haggling, Mr. Snyder buys up your equipment, adds it to his own, and the town is back on a one commercial photographer basis which is all some people say it needs anyway.

The first commercial job I had here at my studio was making pictures for the Phi Delta Theta Centennial. They wanted the usual run of publicity convention pictures, but one request that set me back on my heels was the order to shoot a banquet scene at which 1100 people would be seated. I had never taken such a huge shot in my life, and didn't even know if it was possible, but their idea seemed to be "you're a professional photographer and we want a shot of the banquet," so I had to come across.



GEORGE Hoxie's story is the unfinished gamble of a young man who plunged from a salaried job into a commercial photographic studio in a small Ohio village of 3,000 population. His training was that of many good amateurs.



A MEMBER of A.P.S.A., his lone competitor in the village of Oxford is Frank R. Snyder, who is no rustic with a Hawkeye View. Back in 1899, Mr. Snyder sold his first magazine photograph to *Woman's Home Companion*. It showed the Beta girls of Oxford's Miami University and was used to illustrate a fiction story. Hoxie sighs: "And those old girls are still his loyal customers."



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Hoxie covers college dances and makes candid shots like this one. Next day, he delivers two 8 x 10 prints for \$1.50. "No better local advertising for a new man," he says.

XUM

Preliminary canvassing of the scene told me I would need forty-eight No. 50 flash bulbs to make a flash exposure and this was absurd. Test exposures at  $\frac{1}{2}$  second with room lighting suggested this as the next best thing. The night for the shooting arrived, and the presence of Senator Cain, Chief Justice Vinson and Senator Thomas at the speaker's table didn't help matters any. For psychological reasons and actually to let the diners know when the shooting was finished, I set up five large flash reflectors for effect and set these bulbs off at the end of my  $\frac{1}{2}$  second exposure. Naturally at  $\frac{1}{2}$  second there was little movement. Since I didn't have a banquet camera a few people on the edges of the scene didn't get in. But the job was accepted and paid for and on Main Street that's next door to success.

I often wondered what an amateur photographer needs to do to prosper when he turns himself into a full time tradesman with a camera as his only money making tool. Having been at this only eleven months, it's obvious I don't know all the answers, but I'm right



on the firing line, as our Kiwanis Club calls it. Even my pajamas give off the odor of hypo.

To understand how I came to take that one breathless step away from a regular (15 years) weekly salary check to a business of my own, perhaps you'd care to trace my interest in photography. Somehow, photography seemed to be a vehicle where I could work off steam, especially after I studied it one evening a week for two years at the University of Cincinnati. After the two years were up, and inspired by the outstanding salon record of P. H. Oelman, our instructor, I tried the Marshall Field Salon in 1938. I entered three pictures which I thought highly of and a fourth just to round out the entry. The fourth shot was the

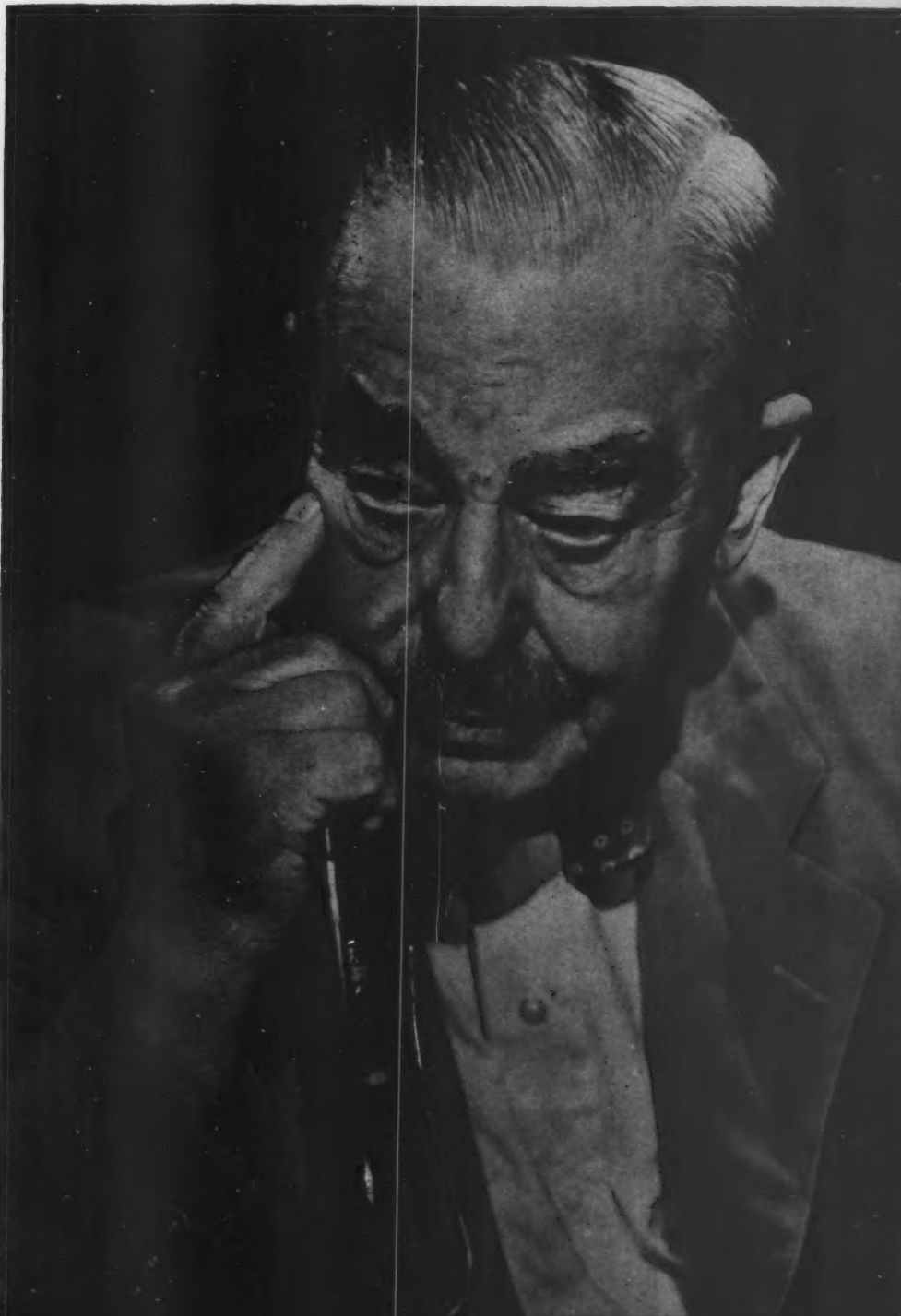
HERE is the run of the mine work of a small town photographer. Could you make shots the equal of these? On the left, the President of Oxford's Western College helps his students pick beech leaves to send alumni in connection with a three million dollar building drive. Above, a more original baby shot than most studios supply; below, a college girl; to the right, Ohio's oldest practicing doctor. Hoxie charges a \$5 camera fee, plus \$8.50 for each 11 x 14 print. Toned prints come higher.



one that brought back my first taste of blood: a Special Award of Merit. It gave me a feeling of belonging and sold me on exhibition photography, right from the start. In those days, Pittsburgh was the tough one. Everyone said: "If you make the Pittsburgh, you are made." I didn't make it. In that first year of salon exhibiting, I sent my prints to about four or five salons. One day I received in the mail a bronze medal and a letter from Johannesburg, South Africa, saying I had been awarded a prize. Seeing my work re-

produced in their salon catalogue was again just the little kick my ego needed to make me feel this salon business was really the stuff. At the end of the second year I submitted to probably eight salons and met with minor successes.

In 1939 I began to get interested in camera clubs and it was then I joined the Queen City Pictorialists. I learned considerably more here than I did in salons. Mainly I guess, because they'd take apart any print you brought in, criticize it, evaluate it, and tell how







NATURE'S BIKINI is what Hoxie calls this cloud picture. He continues to enter photos in salon competition. To the right, a pleasant "grandpa shot." Below, a college girl studies a succession of bottled embryos in zoology class.

to improve it. In sending material to salons, you receive back either an acceptance if it was good, or a return of prints with no comment.

I found out what a difference chloro-bromide papers made. Their wider range in tones, longer scale and warmth are more suited for big exhibition prints. I also found out that there was such a thing as testing to see whether or not I was getting any fog on my pictures through light leaks in my enlarger. There was a little space in the negative carrier in my own enlarger, in which the light given out would strike the white enamel on the refrigerator in the kitchen where I was making my prints in those days, and this would



IN CALIFORNIA where characters are everywhere, Mr. Knott of the Knott Berry Farm has the hobby of restoring ghost towns. This shot, from one of his restorations, shows a side of an old dance hall. Nailed on the doorway is a sign "Not Today."

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be reflected down against my print, tending to fog it up a little.

I tried wrapping up the enlarger in towels like a laryngitis case, but finally I gave up and bought a new enlarger. It was an Eastman Precision and cost me about \$67.00 (second hand) without the lens.

In our club, there were two strong groups: one liked an Oelman nude, the other a Silberstein Mexican picture. These were looked on as prime subject matter.

The recurring debate of "What's Wrong With The Camera Clubs" or "What's Wrong With The Salons" is really a disagreement on what is good subject matter. Some photographers prefer to shoot the harried, inward-turned life seen on a subway, or aim at someone's half-bitten sandwich in a cafeteria. Others, as the pictorialist Hans Kaden, will haunt a golf course at dawn where rising mists and groves of poplars are

*Continued on page 128*

# Autumn in the Country

Out in the country where anything can happen, a man's best friend is his camera. It records unbelievable autumn hues and story book sunsets, along with the satisfying scenes of the earth's harvest. There are startling functional record shots, like the one below, as well as the happy scenes shown on the following pages. This autumn you can capture some of nature's beauty and drama for your own.



ANGUS McDOUGAL MILWAUKEE JOURNAL

DETACHED AND SERENE

RICHARD MATHERS



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JOE MUNROE

WHICH IS BETTER? The serenity of these tame deer in full color, or the startled lunge of a wild deer captured by flash in stark black and white? For wildlife pictures the photographer often must choose between the placid beauty of color and realistic action that requires the high speed of black and white film.

HOBART ROBERTS

HOBART V. NOBLES







BY RUTH ORKIN





BANKS of powerful Stobo Research units were set up along a city street in order to photograph a demonstration of fire fighting skill. Howard Sochurek of the *Milwaukee Journal* stopped the lens of his Speed Graphic down to F:32 to make this backlighted picture. Behind the drops of water that appear frozen in midair, you can see the glow of the main electronic light.



# SPEEDLIGHT OR STROBOSCOPIC?

by JAMES H. BROWN

Ten years ago our dancing daughters went overboard for the Big Apple while we, if we followed the photographic fads of the day, did salaams to the mighty flashbulb. Flashbulbs, some exponents swore, were the panacea for all illumination problems and whosoever questioned this concept was as passé as a rapid rectilinear lens.

Today the novelty of using flashbulbs, like the novelty of the Big Apple, is all but forgotten. Having grown to understand the little globe of condensed sunshine, most photographers think of it as a tool with the merits and limitations inherent in any tool. Not so well understood, however, are two other illumination sources that are coming of age in photography. These are the electronic flash units known as speedlight and the stroboscopic light.

For several years now we have grown accustomed to seeing pictures which contain multiple images of subjects in rapid action—ballet dancers and athletes in particular. But while it may be obvious that the images were recorded on a single negative in rapid sequence, the captions accompanying the pictures are often confusing. A caption may speak of speedlight as the illumination source one time and, in a similar picture, refer to stroboscopic light as the illuminant. Since a speedlight and a stroboscopic light are different in both design and operation, how can one duplicate the work of the other?

The answer is that they can't duplicate each other's work except in *effect*, and then only under certain conditions. In other words, the main difference between speedlight and stroboscopic light is not so much the kind of light they emit as *how* they go about supplying it.

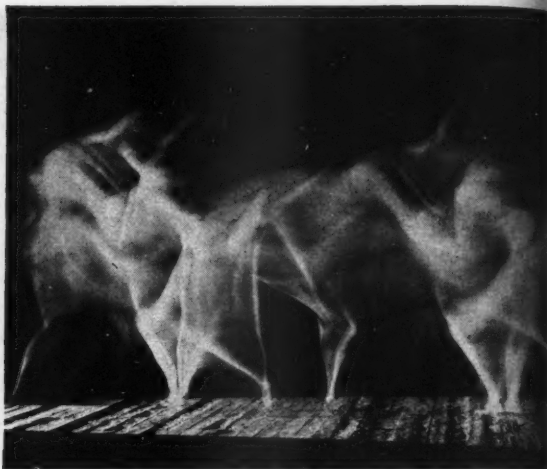
NINE images were recorded stroboscopically by the author in the time it took a subject to slip and fall for an Eagle Picher Co. safety-first ad. Since stroboscopic units require no appreciable time for recharging between flashes, the number of images that could have been recorded are infinite. Too many images, however, would have made the picture confusing.



Fig. 1



Fig. 2



***Can You Tell Which Is Which?***

Two of the pictures in this group are "straight" photographs in the sense that they were made with ordinary spotlights. One picture was made with "stroboscopic" lights in the strictest definition of the word. Two pictures were made with electronic flash units which many technicians call speedlights. See if you can tell which pictures were made with each illumination source, then check your deductions with the answers at the end of this article.

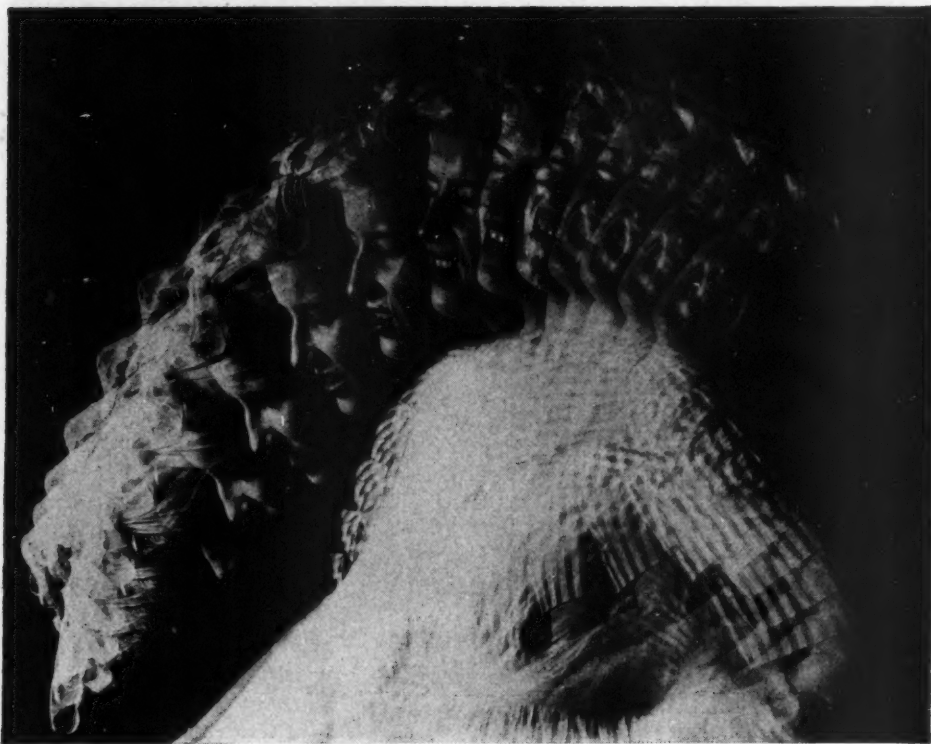


Fig. 3

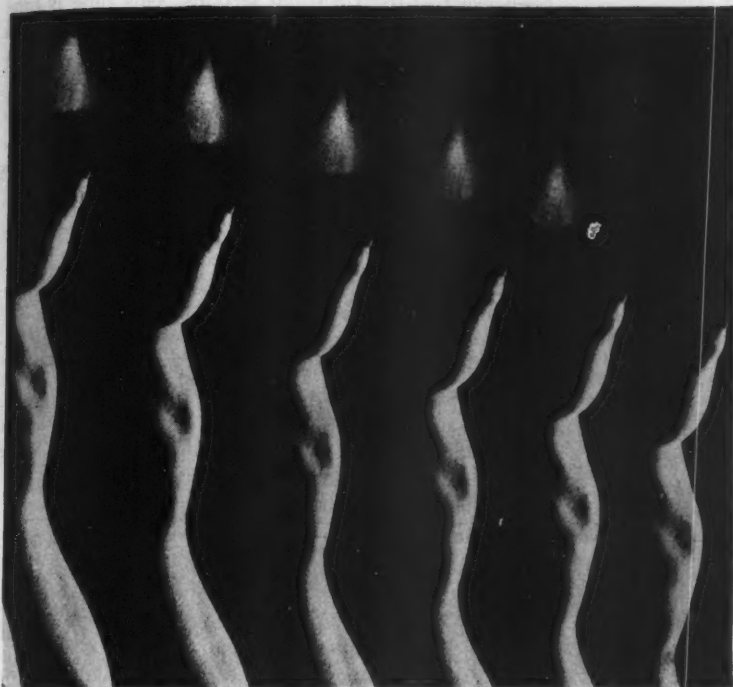


Fig. 4

Fig. 5



Let's see if we can clarify this further, first with a brief definition, then with a verbal diagram.

According to Webster, the word "stroboscope" comes from the Greek word: "whirling, to see. An instrument for... observing the successive phases of a periodic or varying motion by means of light periodically interrupted. Also the illusion of motion by a series of pictures viewed in rapid succession." The word stroboscopic, of course, is later defined as pertaining to or on the principle of the stroboscope.

Moving pictures, then, are photographed stroboscopically in the sense that they owe their illusion of motion to a series of pictures reviewed in rapid succession. The pictures that artist-photographer Herbert Matter makes by means of a multi-bladed shutter or slotted disc placed in front of the lens are also stroboscopic by nature.

Thus far we have thought of stroboscopic pictures only as they are made in rapid succession by means of mechanical shutters or discs. Supposing we now forget about mechanical shutters for a moment and think of light itself as a type of shutter.

Imagine, if you will, that you are in a room with a camera mounted upon a tripod and focused upon a subject. You turn off all the lights so that the room is dark and open the camera shutter on "Time." As long as the room is dark, nothing can register on the film in the camera even though the shutter is wide open. If, however, a flashbulb is fired, the light itself has acted as a sort of shutter in recording a single image.

Supposing, next, that several flashbulbs are arranged so that they can be fired in succession, one after the other. With the camera shutter wide open in the darkened room, the subject can move about and each flashbulb, as it is fired, will act as a shutter in recording a separate image on the film. In effect, the resulting picture will be quite similar to pictures made with speedlight or stroboscopic equipment. With both speedlight and stroboscopic units, the camera shutter is opened and the flicking on and off of the light itself has the same effect on the film as a mechanical shutter.

Both speedlight and stroboscopic units make use of





bulbs which, unlike flashbulbs, can be used repeatedly. To ask how many times these bulbs can be flashed before they wear out is like asking how many beans it would take to fill a paper bag. Manufacturers often set an arbitrary number of flashes at 10,000 to 20,000 per bulb, but in all probability some bulbs will double this number during their lifetime.

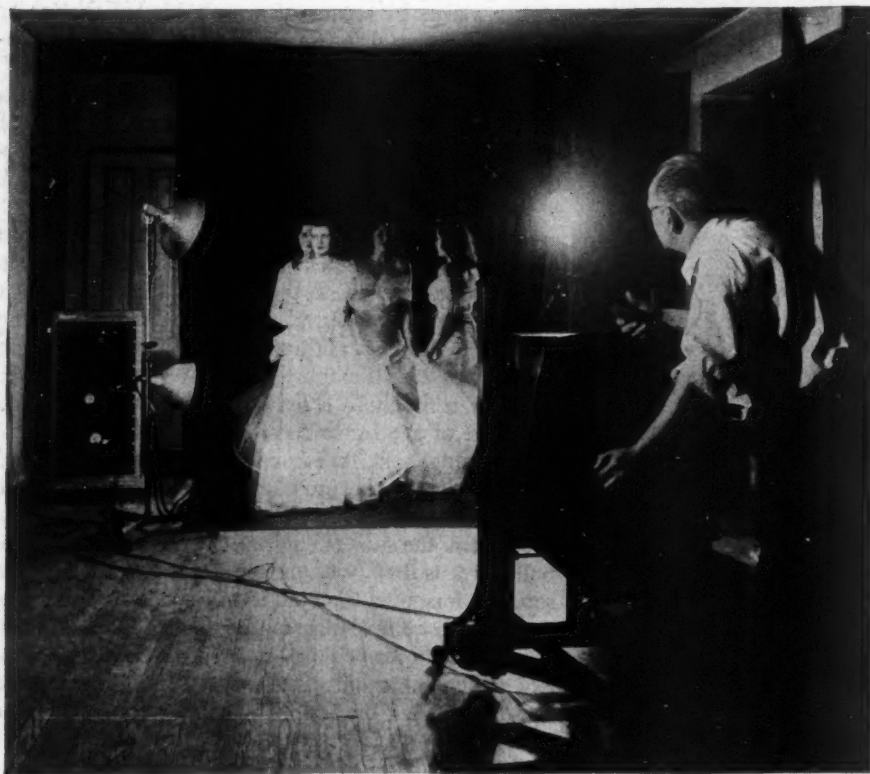
The same repeating bulbs are not used for both speedlight and stroboscopic units. Like the power and circuit units for the respective types of illumination, the bulbs are somewhat dissimilar in design. The common speedlight power unit builds up a charge on its

condensers in from 5 to 20 seconds. This time is limited purposely to protect the lamps from serious overheating, electrical overloading and consequent breakdown. The duration of the flash supplied by speedlamps ranges from  $1/3,000$  to  $1/30,000$  of a second, with the speed of the average unit generally falling between  $1/3,000$  to  $1/5,000$  of a second. A few large flash units made for color photography with great volumes of power (1,000 to 10,000 watt seconds capacity) have flash durations ranging from about  $1/600$  to  $1/1,000$  of a second depending upon the various constructions. The longer the recharging time between flashes, the smaller the power unit needed—hence the more portable the speedlight unit becomes.

Stroboscopic lights, on the other hand, are built to flash many times *per second*. Professor Edgerton and his associates at Massachusetts Institute of Technology designed stroboscopic lamps as far back as 1930 that would flash 4,200 *per second*. Gjon Mili, whose pictures often appear in *Life*, and Ralph Bartholomew, Jr., of New York have stroboscopic units that flash many times a second. My own unit (Filmgraphics Studio, Chicago—Ed.) will operate at variable speeds up to about 200 flashes per second.

Since stroboscopic units feature fast repeating flash, the power to recharge the condensers must be infinitely greater than required for speedlight units. Rectifier parts such as transformers and tubes must also be larger—all of which adds up to a bulky, heavy, and

*Continued on page 121*



A DOOR on the back of the author's stroboscopic power unit (above, left) swings open to provide access to the maze of condensers, rectifiers, and transformers within. This cabinet unit cost about \$5,000 for materials, and will furnish up to 200 flashes per second. Left, the author at work. The power unit is in the left background (front view). Ordinarily the studio is darkened between stroboscopic flashes. For this illustration, the lights were turned off and a camera in the back of the studio was set for a time exposure. As the model moved across the floor, the author flashed the stroboscopic unit four times, registering an image each time. A floodlight was then snapped on long enough to record the rest of the studio interior. Photo: Art Ahlers.

REMINISCENT of famous paintings of the Three Graces, this stroboscopic picture captures the swirling rhythm of a dancer's movements. Black backgrounds are used for electronic flash pictures that are to contain multiple images the same as for recording multiple images with any other light. Otherwise, background objects would show through the subject images.

*Photo: James Brown.*



# Change of Pace

*Knowledge of human nature is as essential to dramatic pictures as knowing how to process your film, declares LOOK'S chief photographer*



STANDING on a chair about ten feet away from the subjects, Rothstein made this at 1/200 at F:11 with a Linhoff on Super XX using one No. 5 flash bulb.

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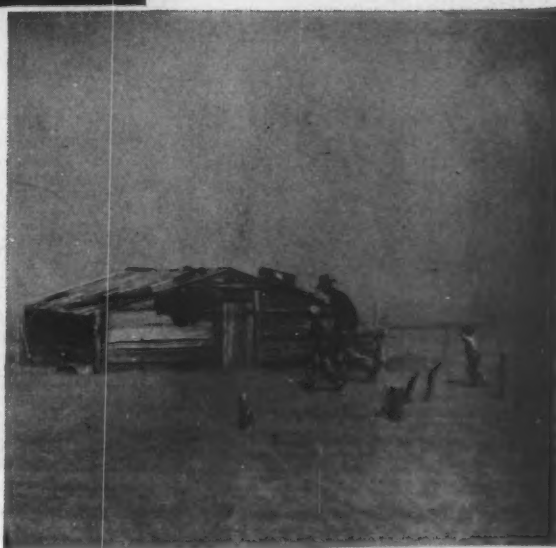
THE TRADEMARKS of Arthur Rothstein are these two photographs he made for the Farm Security Administration in 1935. Both photographs have been reproduced hundreds of times and aroused great controversy. The upper photograph was one of a series used by the Roosevelt Administration to convince Congress and America that "one third of a nation was poorly fed, poorly housed and poorly clothed." The lower picture shows the "black blizzard" that started the Okies on their trek to California.

By ARTHUR ROTHSTEIN

Did you ever wonder about the man behind the picture? When you see a photograph in a magazine that makes you stop turning the pages, did you ever ask yourself what kind of a person took that picture?

The fact is that many leading magazine cameramen have started out as button salesmen, architects, housewives, electrical engineers or stenographers. Before becoming interested in photography, I prepared myself for a career in medicine.

The pictures you see in the better magazines are made by a very special class of people. They can be as temperamental as movie stars, as cultured and informed as university professors, and they are under as much tension when working as a man facing a Congressional inquiry. Almost all of the men and





INTIMATE, appealing, yet impersonal, this peek into milady's boudoir is a fashion shot Arthur Rothstein made for *Look*. Turning the model's head away from the camera, a fashion technique, usually conveys an expressive note.

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WHEN part of the Blue Ridge Mountains of Virginia were made into a National Park, mountaineers were living there just like their ancestors of 150 years ago. Their families were moved to make way for the park. Here is a document of one of these pioneer women.



women who have succeeded as magazine photographers have two things in common. First, they are experts in photographic techniques. Second, and just as important, they have deep insight into human nature and are at least amateur sociologists.

A photographer I know worked as an office boy on a magazine and went from there to a studio, then to the laboratory as a technician. Through these apprenticeships he learned photography well enough so that mechanically and technically he could take good pictures.

However he has not been able to work at the level of the magazine photographer. He hasn't acquired the

kind of intellectual training to make it possible for him to inject editorial meaning into the things he sees.

During the war, I trained hundreds of men to be Army photographers. At the end of six weeks of intensive training they produced sharp, clear, well-exposed pictures; but there proved to be more to the making of photographs than the mechanical operation of the camera. I would hesitate to call these men photographers; they were simply cameramen.

Yet there are many photographers renowned for their perception and for the expressive qualities of their pictures who admit to only a limited knowledge of the mechanics of photography. I am sure that if



they had six weeks of fundamental technical training, they would widen their scope tremendously.

I know one such photographer whose intellect tells him just when to click the shutter, just where to point the lens, but he has never learned to process his own film. As a result he lacks understanding of how to better his work. He could gain that insight from learning technique.

### ***How Do You Start?***

Is there an ideal training that a magazine photographer can follow for a successful career?

I think the first requirement is education on a college level, either by attending an institution of higher learning or through self-education. You must have your intellect developed in a mature way. Most important is the knowledge of human beings, how they live, work and play, and this comprehension is best developed through formal education.

One actual incident illustrates how a problem is overcome through technical knowledge.

Recently I was assigned to make pictures of U. S. S. R.'s Viacheslav Molotov speaking before the United Nations Security Council. The light was poor,



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Flashbulbs were forbidden. It was also necessary to shoot from a great distance. Using a long focal length lens which was relatively slow, I found that the fastest film I could acquire was still too slow to get well-exposed negatives.

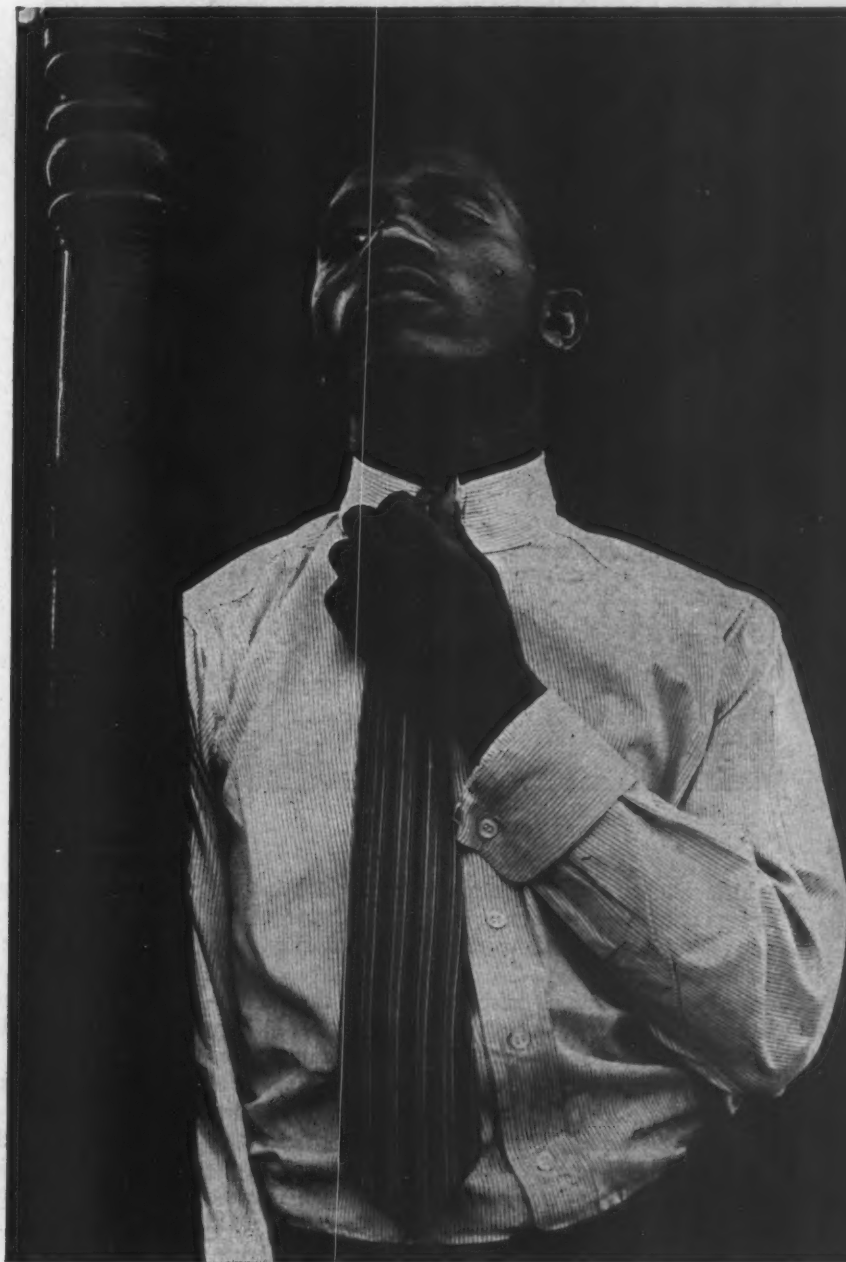
That left two possibilities; over-develop high speed film, or hypersensitize my film with mercury vapor. I did the latter by storing for 36 hours my rolls of 35 millimeter film wound on the reels of developing tanks, with a few drops of metallic mercury deposited on the bottom of each tank, each one sealed with scotch tape. At room temperature, the mercury vapor

increased the speed of the film by 50%. Using this faster film, I was able to photograph Molotov with assurance that my negatives would be good.

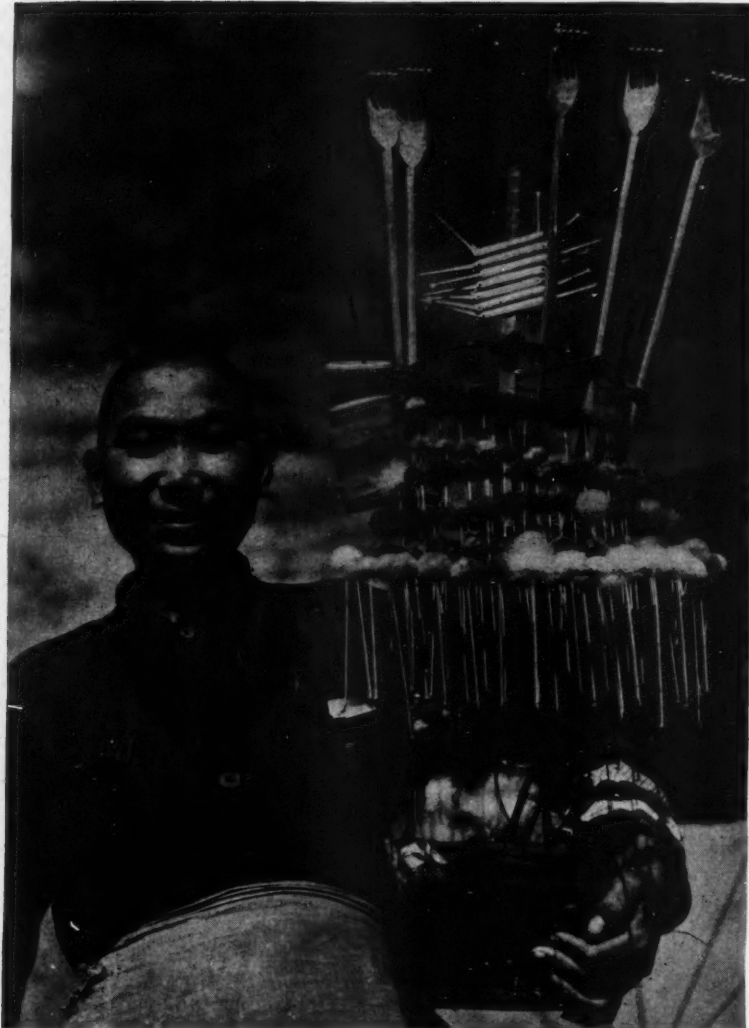
Through preliminary tests, I found that exposures of 1/5 sec. at F:4, the maximum aperture of the 300mm lens used, was sufficient to produce a negative that printed well. It is usually true that for every gain of one kind in a chemical process there is a loss of another kind. Here the process of hypersensitization produces a certain degree of fogging. This may be minimized by subsequent development in a slow borax developer. The over-all fog creates a flat negative

TURNABOUTS make good candida. Here, Maxie Rosenbloom yawns in boredom while seated 20 feet from the center of attention at a prize-fight at Madison Square Garden.

"SATURDAY NIGHT DATE," a title that is both appropriate and true, labels this documentary shot of a Birmingham, Alabama youth.



UNDER blue skies, a peddler offers his back scratchers, tooth picks, ear picks, and other personal hygiene implements, and is in sharp contrast to the popular concept of the inscrutable Chinese. Made by the author on the Shanghai waterfront.



which requires a more contrasty paper which in turn brings out the grain. But, it is obviously better to get the picture, deficient though it may be in quality, than to get nothing at all.

A knowledge of chemistry also helps the photographer who finds it necessary to develop his film by inspection. For panchromatic film, the formula I have used is a simple one—1 gram of pinakryptol green to 500 cc of water. This is diluted for use with 10 parts of water. The film is immersed in this bath for two minutes in total darkness and then developed in the usual manner. During development the film may be inspected frequently by a yellow-green safelight without any danger of fogging. It is apparent that this pro-

cedure has many advantages for the photographer who may want to adjust his time of development for exposures under difficult conditions.

The success of your photography many times depends on an ability to understand people who have a way of life different from your own. A fundamental appreciation of all this is attained by taking a formal course in sociology or reading books on the subject.

The changes affecting our lives in the great depression following the crash of 1929 provided a particular era during which I did considerable work in documentary photography. This was the time when the Farm Security Administration, under the direction of

*Continued on page 124*

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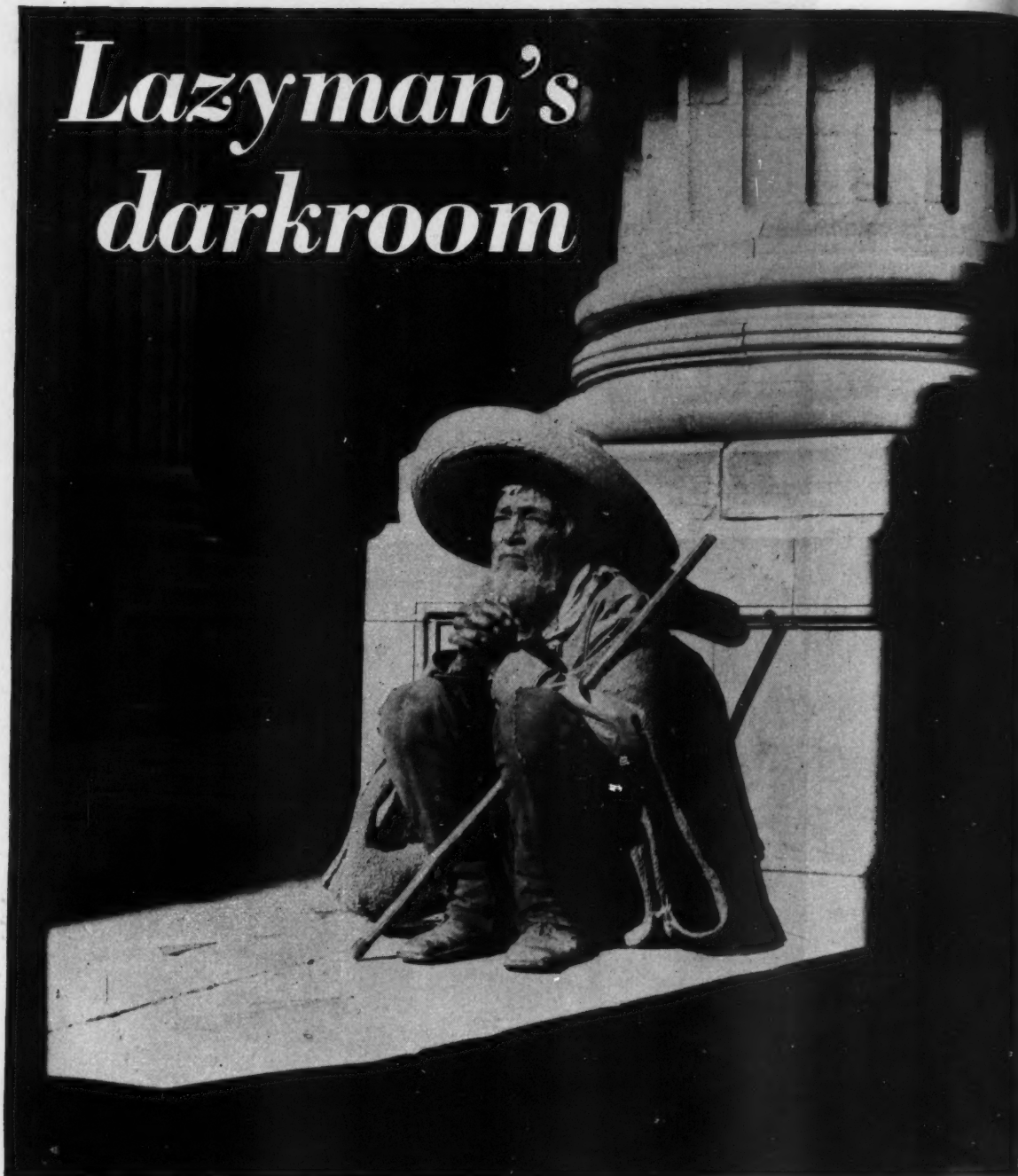
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A CAMERAMAN, who understands his subject, can take a workingman, a pipe, and an oversize glass of ale and make a picture that reveals a British laborer at the pub on the corner. Instead of representing Alexander McQueen of Coventry, it turns out to be John Bull himself.



XUM

# Lazyman's darkroom



By BERNARD SILBERSTEIN

The day's work is done and you are looking forward to a quiet evening in the darkroom. You dust off the enlarger, fill the developing trays, and begin sorting out the negatives you are in a mood to experiment with. So far so good—you are finding enjoyment in

the hobby of your choice.

Then the first print is made and the old darkroom pest pops up, on schedule. It's our friend, *agitation*. The books have this to say about it:

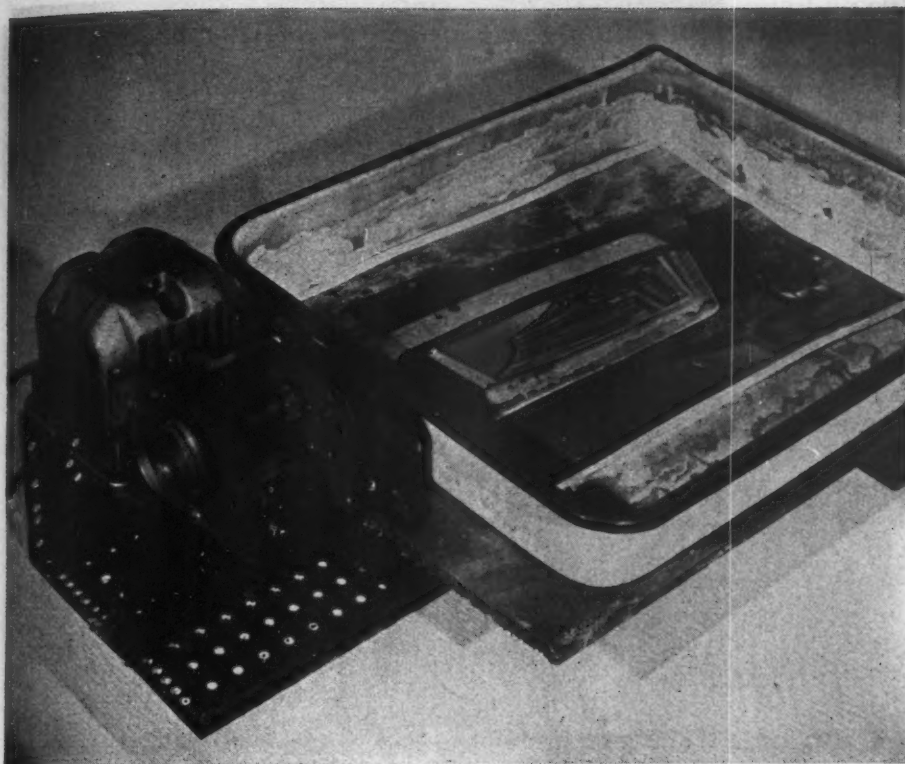
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**FILM TANKS** and developing trays up to 8x10" can be agitated with this motor-driven outfit built from Erector Set parts. A larger agitator for handling 16x20" trays is described in the text. Mechanical agitation insures even development, printing, fixing, and toning. It also reduces the time required for some processes as much as 20%.

development is of the greatest importance. Infrequent and irregular agitation will inevitably result in uneven densities and streaks in the final photographic image which can never be corrected, once the damage is done. Uneven development shows up more prominently in the blank sky areas of landscapes and in the thinner portions of negatives."

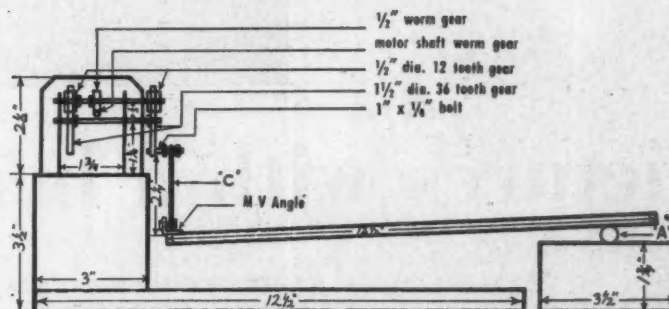
Developer manufacturers recommend agitation at least once every two minutes during development and their recommended development time at a given temperature is usually based on that cycle of agitation. Constant mechanical agitation decreases development time by approximately twenty percent. In other words, if a film is supposed to be developed at sixty-eight degrees for fifteen minutes, the use of constant agitation would reduce this twenty percent of fifteen which is three; hence the correct development time would then be twelve minutes.

#### **With Paper, Too**

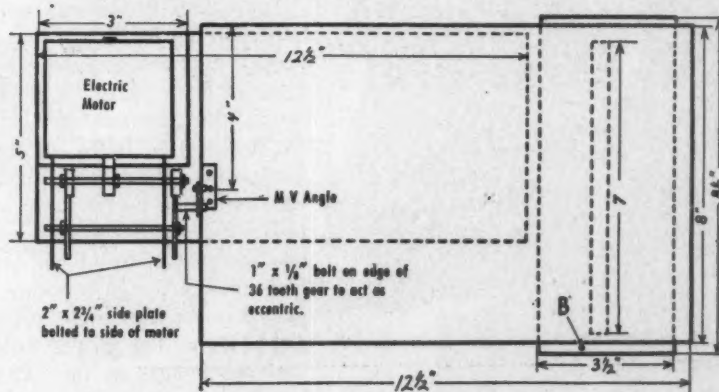
It is essential that the developing fluid covering the surface of the

*Continued on page 114*

**SIDE VIEW OF SMALL TRAY AGITATOR**



**PLAN VIEW OF SMALL TRAY AGITATOR**





*Here are the equipment, lights, camera, film and extension cord you need to make pictures in your living room*

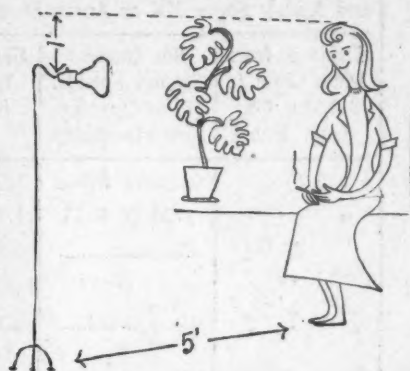


## Pictures with a bridge lamp

You can take good indoor pictures using artificial light with *any* camera. All you need besides the camera is a roll of fast film, some photoflood bulbs, a couple of bridge lamps to hold the bulbs, and a steady support for the camera.

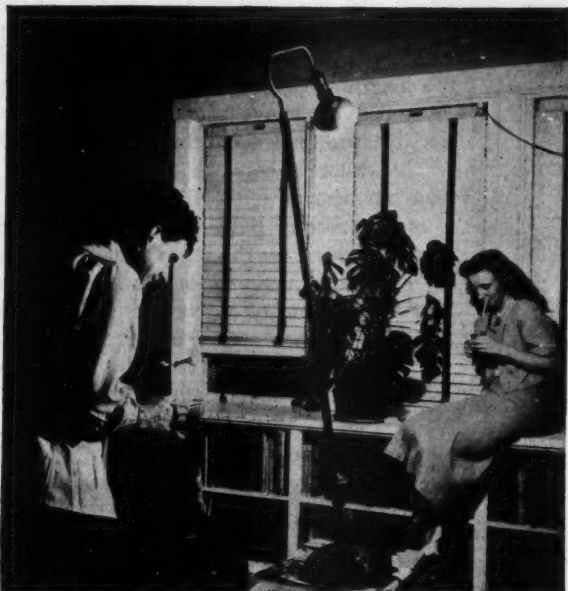
Your photo dealer can supply you with Kodak Super XX, or Ansco Superpan Press film, either of which are excellent for indoor purposes. Number 2 Photoflood bulbs that have built-in reflectors make it possible to take the cloth or parchment shades off your lamp stands, thus eliminating the chance of their becoming scorched from the heat of the bulbs. Reflector Photoflood bulbs can be purchased from your dealer for about \$1.19 each. Ask for RFL2 bulbs. If you have only one bridge lamp to support a bulb, a vase-lamp or goose-neck lamp stand will do for the other bulb. When you are ready to take pictures, someone can hold the second lamp in the right position long enough for an exposure. In lieu of a tripod, the camera can be placed on an end table, using books or magazines to raise it to the right height. The idea is to have a steady support for the camera so that the images in the picture will not be blurred by movement.

HOUSE PLANTS can be used to throw exciting shadows. The lighting set-up is shown below. One photoflood gave enough light against the background for an exposure of  $1/25$  at  $F:11$ .



The lamp that is closest to your subject naturally throws the most light upon the subject. This, then, is your *main light*. The amount of exposure you must give (the length of time the camera shutter must be open to record an image upon the film) depends upon the distance between the *main light* and the *subject*. The distance between the *camera* and the *subject* has no bearing upon the exposure time. The purpose of the second light is to "fill-in" the deep shadow areas created by the main light. That is why it is aptly referred to as the *fill-in* light. You will probably want to make many indoor pictures using only a single light, but when you do add a *fill-in* light (or even a dozen extra lights), the exposure time will still hinge upon *subject to main light*, distance.





**MAKE-SHIFT** light stands and camera tripods aren't impressive, but they will get the pictures. The picture above details the way the picture below was taken. The photoflood is in the bridgelamp stand, which is placed on top of an end-table and tilted back with a book. The camera height was built up by using a waste basket on top of a sewing table, then a couple of books were added for good measure. An exposure of 1/2 second at F:11 produced a good negative on fast panchromatic film.



# FLOODLIGHT EXPOSURE CHART

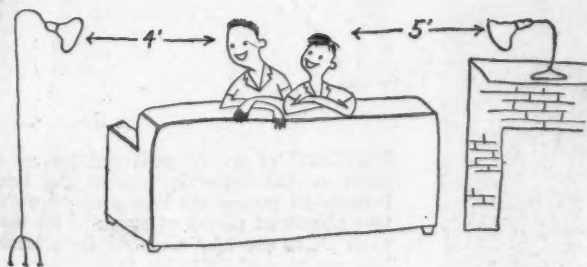
Using one or more RFL2 (Reflector Photoflood Lamp) and Kodak Super XX or Ansco Superpan Press film.

Distance from Main Light to Subject. (Approx. Feet)	Box Camera Shutter Speeds. (Lens Openings Non-adjustable)	Shutter Speeds & Lens Openings for Adjustable Cameras
3 to 4	Snapshot Speed	1/25 sec. @ F:11
	1/25 @ F:11	1/50 sec. @ F:8
5	.....	1/25 sec. @ F:8
		1/100 sec. @ F:4.5
7	.....	1/25 sec. @ F:8.3
		1/2 sec. @ F:22
8 to 12	1/2 second	1/25 sec. @ F:4.5
		1/2 sec. @ F:16
13 to 17	1 second	1/2 sec. @ F:11
		1/2 sec. @ F:8



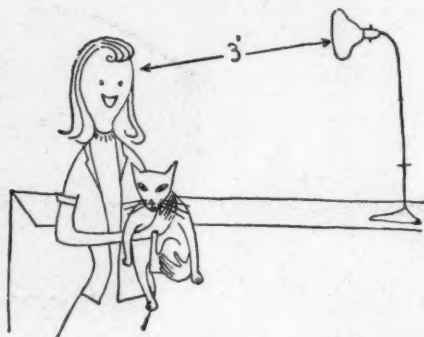


THE IDEA here was to eliminate distracting details of pictures and books in the background. Light was shot straight at the boys from two sides, as shown in the diagram below. The exposure was  $1/25\text{th}$  at  $F:11$ .

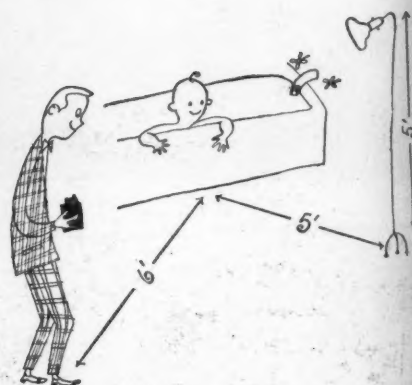


Practically all box cameras are "fixed focus" cameras—that is, they have non-adjustable lenses which operate at about  $1/25$ th second with a lens opening of about F:11. If the main light is placed only 3 or 4 feet away from the subject an exposure can be made at ordinary snapshot speed. This is assuming that an ordinary subject does not receive an abundance of additional light reflected from close-by white walls or ceilings. Several of the accompanying pictures were made at snapshot speeds of  $1/25$ th second at F:11 with the main light as much as six feet away from the subject—but *only* because of the proximity of very light-colored walls which reflected light.

*Continued on page 112*



THE PHOTOFLOOD used for this picture was in the flexible holder, three feet away and leaned well forward of the girl and the cat, as shown in the drawing left (the artist thought she should hold him in the other arm for awhile). The exposure was  $1/25$ th at F:11 on Super XX film.



PICTURES of papa's pride and joy are a cinch in the bath-tub, because the light bounces all around the light surfaced walls. One photoflood placed as shown in the diagram above provided the light for a hand-held exposure of  $1/25$ th at F:11.

# No doubt about it—they're Kodachrome pictures

YOU just can't miss it... the over-all crispness... the sunny brilliance... the technical excellence of a Kodachrome Print or Enlargement. And it would be strange if they weren't pretty wonderful, wouldn't it? Kodak researchers and technicians have lived with color so long.

And now you can get Kodachrome Prints and Enlargements from *any* color transparency—miniature, roll, or sheet film. Just take your favorites to your Kodak dealer for an extra "dividend" from your work in color.

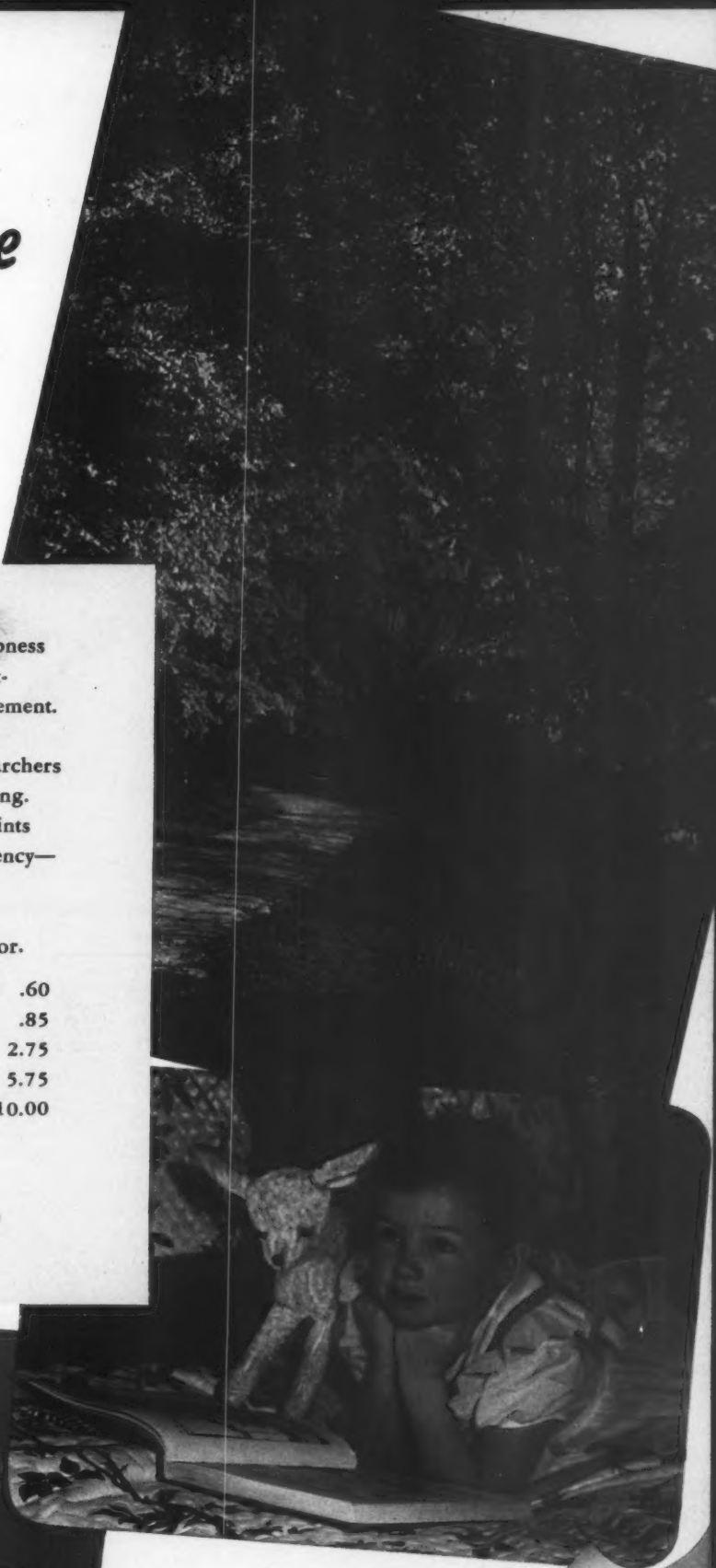
Kodachrome Prints 2X (2¼ x 3¼ in.) .. \$	.60
Kodachrome Prints 3X (3 x 4⅜ in.) ...	.85
Kodachrome Enlargements 5 x 7 in. ....	2.75
Kodachrome Enlargements 8 x 10 in. ...	5.75
Kodachrome Enlargements 11 x 14 in. ...	10.00

Minimum order, \$1.

## It's Kodak for Color



"Kodak" is a trade-mark



# Kodak

XUM



# BULLETINS

## NEWS OF KODAK PLANS AND PRODUCTS

### It's Here—

#### A Kodak Tourist Camera With 1/800-Second Shutter

CAMERA news of the month—the Kodak Tourist Camera with Anastar f/4.5 Lens and new Kodak Synchro-Rapid 800 Shutter.

You know the Tourist Camera; it is famous for its rigidity, its bed shutter release, optical

finder, double-hinged back, and general style-wise smartness. But the chances are you don't know the Kodak Synchro-Rapid 800 Shutter. Because it's brand new. And top speed is 1/800 second.

For a between-the-lens shutter, that's a phenomenal speed. In this new shutter, it is a dependable, repeatable, reliable speed, not a sensational peak to be reached under ideal conditions. Possibly your need for 1/800 is not frequent, but when you need it... you really need it.

The 800 is not simply a stepped-up conventional shutter. It is a new design in which the shutter blades spin on their axes. The action is rotary, not reciprocating. One result of this design is smooth action; another is high speed potential. Ten speeds—1 sec., 1/2, 1/5, 1/10, 1/25, 1/50, 1/100, 1/200, 1/400, and 1/800—are offered, in addition to "B." Flash synchronization is exceptionally smooth and flexible, adjustable to suit the time-delay characteristics of the several types of flash equipment, including Kodatrons and other electronic flash lamps.

Design-wise, one of the most important features of the new shutter is that it has led to the development of an exceptionally true and rigid lens mounting. The Anastar f/4.5 Lens is one of the finest ever put in a folding roll-film camera. It is a four-element lens; Lumenized, of course.

Of itself, this new Kodak Tourist Camera is a brilliant achievement. When fitted with the Tourist Adapter Kit for 828 (Bantam) films, it offers the greatest versatility and the widest speed range of any folding roll-film camera. Because of production limitations, this camera is the only one in which the Kodak Synchro-Rapid 800 Shutter is to be incorporated for some time.

The Kodak Tourist Camera with Anastar f/4.5 Lens and Kodak Synchro-Rapid 800 Shutter is \$95, including Federal Tax.

Above, the new Kodak Synchro-Rapid 800 Shutter, on a Kodak Tourist Camera with Kodak Anastar f/4.5 Lens. At right, a view of the unique blade mechanism—with counterbalanced rotary blades instead of the common reciprocating blades. Mechanism also includes safety blades which open just before the rotary blades go into action.



### It's Editing That Makes The Movie

ALTHOUGH good individual scenes are essential, they—alone—don't assure truly fine personal movies. The best films, as every experienced movie maker knows, although taken with a camera, are made over the splicing block. For here... as you trim overlong scenes and delete bad frames... as you insert titles... as you rearrange scenes for better continuity... and as you assemble your films onto large reels for longer, uninterrupted shows—you're providing the smoothness and tempo that distinguish movie reels from real movies. You're adding the "Hollywood touch" to your personal films.

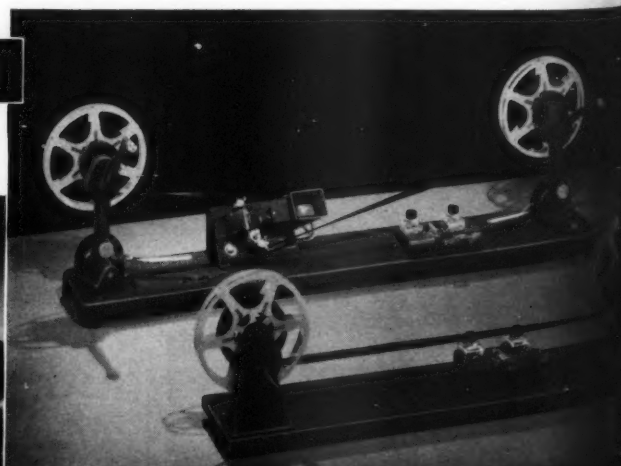
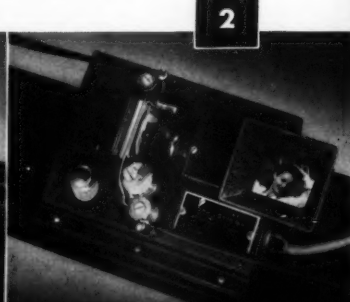
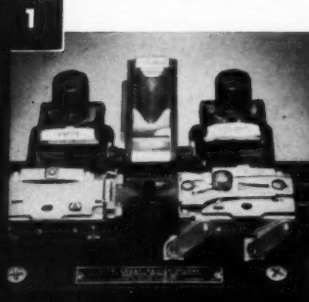
With Cine-Kodak equipment, editing is easy... actually a real part of personal movie enjoyment. Plan to see your Kodak

dealer soon about the items of your choice and get started right... right away... in shaping up your diary of personal movies.

**1. Handy splicer** Here's your basic editing tool—Cine-Kodak Senior Splicer, a remarkably efficient little unit that you can use alone or attach to almost any type of rewind. The Splicer's built-in aids compress the

whole splicing operation into a few easy steps. And, just as important, they provide the exactness needed for consistently good results. With a single action, the double-bladed shearing arm squares off both film tips with matched evenness. The attached scraper lets you remove the emulsion without harming the film base. And the unique pressure clamp automatically applies the firm, equalized pressure essential to smooth, permanent film welds.

For use with both 8mm. and 16mm. film, Cine-Kodak Senior Splicer can be obtained separately or as part of any of the Cine-Kodak editing outfits described on this page.



There's a Kodak need. Most Kodak products, home use and largest audited fine lenses—Ektanon Lenses of focal lengths ranges. Price: 5-inch f/3.5 smartly styled ideal unit for metal body, focusing, high 150-watt lamp. Projection Ek and clubroom. Price, with 5 capable, m. Model 1A—jector for home Kodak Project at short range.

**2. Movie Viewer** Viewer provides a built-in screen. The viewer with elusive you come to ranged... inserted... of the frame notched for The Editing—one for 8 and is designed for rewind.

## To Show Summer Color Now—Autumn Color Soon



There's a Kodaslide Projector to fit every projection need. Here's the line-up. At left, the 1000-watt Kodaslide Projector, Master Model—a high-performance, power-cooled unit suitable both for home use and for commercial or lecture use in the largest auditoriums. It's available with any of five fine lenses—three Kodak Ektar Lenses, two Kodak Ektanon Lenses—ranging up to  $f/2.3$ , with a choice of focal lengths for longer or shorter screen ranges. Price, with Kodak Projection Ektanon 5-inch  $f/3.5$  Lens as pictured, \$181. Next, the smartly styled Kodaslide Projector Model 2A—an ideal unit for home use. It has a strong die-cast metal body, built-in elevation adjustment, smooth focusing, highly efficient optical system; takes a 150-watt lamp and has a 5-inch  $f/3.5$  Kodak Projection Ektanon Lens. For use in lecture halls and clubrooms, a  $7\frac{1}{2}$ -inch  $f/4$  lens is available. Price, with 5-inch lens, \$47.50. At right is the capable, minimum-priced Kodaslide Projector Model 1A—a very compact, sturdily built projector for home use. This model has a 4-inch  $f/3.5$  Kodak Projection Ektanon Lens, for large pictures at short ranges, and uses a 150-watt lamp. The

price, \$27.50. All Kodaslide Projector lenses are Lumenized, for screen images of maximum color purity and improved screen brightness up to 150 percent compared to non-Lumenized lenses.



### Let Your Color Slides Be Seen At Their Best, Through Thoughtful Editing And Good Viewing Equipment

**Editing Aids**—Orderly arrangement leads to good slide shows. Kodaslide Sequence Files are compact, handy, and hold 115 cardboard or 45 glass slides in neat order; price, \$6. Kodaslide File Boxes, at \$1.15, are economical all-metal units; hold 150 cardboard or 53 glass slides. Kodak Ready-Mounts, in boxes of 50, are \$1.50; a box should be kept on hand for remounting cardboard slides when they begin to show wear.

**For Daylight Showing**—The Kodaslide Table Viewer, at left, has created a new trend in the showing of color slides. Its unique black screen shows pictures brilliantly in a normally lighted room. And because it's a complete unit—projector, slide changer, and screen all in one—it can be put into action with a minimum of "setting up." The slide chamber holds up to 75 cardboard slides—or up to 30 glass-mounted slides—and the convenient push-pull changer handles either type of slide with equal ease. For intimate home showings, to a group of three or four, it has no equal. Salesmen, demonstrators, travel agencies, real estate offices, specialty stores, scientists, medical men, and many others are finding it ideally suited for presentations or office consultations. The price is \$95.

**2. Movie preview** Cine-Kodak Editing Viewer projects your films—in action—on a built-in screen as you wind or rewind them. The Viewer eliminates hide-and-seek with elusive movie scenes or frames. When you come to a scene to be deleted or rearranged... or to a part where a title is to be inserted... just touch a lever. The margin of the frame being viewed is harmlessly notched for easy, later reference.

The Editing Viewer is made in two models—one for 8mm. films... one for 16mm.—and is designed for use with any horizontal rewind.

**3. Editing outfits** Choose either of these fine outfits for real convenience in precision editing—Cine-Kodak Senior Editor (front) for both 8mm. and 16mm. movies... Cine-Kodak Master Editing Outfit (back) for 16mm. films only. With either, you get the Cine-Kodak Senior Splicer and a geared-spindle rewind mounted on a sturdy horizontal base.

The Master Editing Outfit, which also includes the 16mm. Editing Viewer, is the choice of the experts—its all-metal base and heavy-duty spindles provide steadiness and capacity ample even for precise work with large reels of 16mm. film.

**4. Portable outfit** Cine-Kodak Editing Kit is a "cutting room" in one compact case—complete with every attachment... every piece of equipment... you'll need to edit your movies. Rewind, Cine-Kodak Senior Splicer, Cine-Kodak Editing Viewer, editor bracket, work tray, and storage space for reels and cans are all included.

You can set up at a moment's notice—just lift the lid. And when your editing is completed, simply replace the cover—the whole outfit folds compactly for safe, handy carrying and storage.

Cine-Kodak Editing Kit is available in two styles—one for 8mm... one for 16mm.

4



#### See your Kodak dealer

KODAK products are sold through Kodak dealers, any of whom will be glad to complete the descriptions of Kodak products which are mentioned in these pages. And in matters of general photographic information your Kodak dealer will be found to be soundly informed.

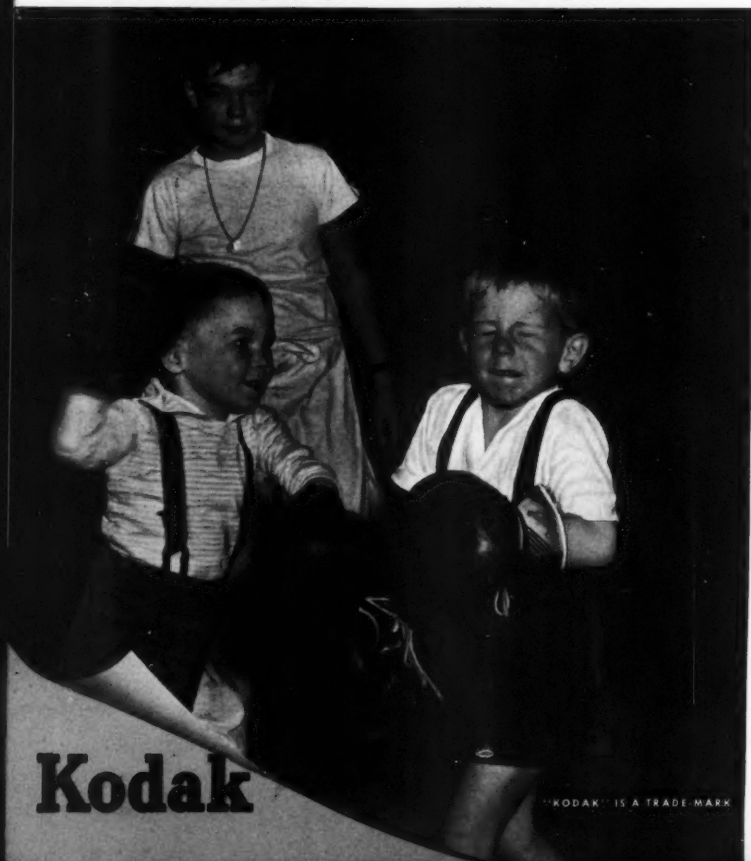
XUM

Kodak



"GREENSPRING LANE" ... 1st Prize, Continental Print Contest

"BABY SOCKERS" ... 1st Prize, Feature Class,  
Press Photographers of Baltimore Annual Competition



**Kodak**

"KODAK" IS A TRADE MARK

▲ "The advantage of Kodak **OPAL G** Paper for salon exhibition work is its tremendous flexibility. An endless variety of warm tones, from reddish to olive, may be obtained by slight changes in developing. With gold (blue) toning, the coldest tones are equally simple. The paper is virtually fogproof—frequently I have developed prints five or more minutes to achieve some interesting quality."

◆ "It's the facial detail that 'makes' this picture . . . the brave but hopeless resignation on the victim's countenance, plus the fiendish glee exhibited by the aggressor. With **KODABROMIDE** Paper, I was able to penetrate every bit of this vitally important detail in the important highlight areas (the two little boys' faces), at the same time retaining sufficient detail in the shadows so that the dark areas did not clog up."

*A. Aubrey Bodine*

These and other fine Kodak papers are available at your Kodak dealer's . . . Eastman Kodak Company, Rochester 4, N.Y.

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*how to use*

## **PINAKRYPTOL GREEN**

*for developing pan film  
by inspection*

Two organic dyes, pinakryptol green and pinakryptol yellow, come to the aid of photographers who like to watch their films during development. These dyes, used in very dilute solution, reduce film sensitivity and permit developing most panchromatic emulsions under safelight illumination without danger of fog.

With some films pinakryptol yellow is a more powerful desensitizing agent than its companion, however, with other emulsions its use is unsatisfactory. Many workers prefer the green dye for its consistent performance. Both the green and the yellow are supplied in powder form and need only be mixed with water for use. The solutions should be stored in brown bottles to prevent decomposition.

A Wratten Series OA or Ansco A-6 safelight with a 10-watt bulb may be used for the fast panchromatic emulsions if these instructions are followed carefully:

Make up a stock solution of pinakryptol green using 15 grains of the dye to 16 oz. of water. For use, dilute 1 part stock solution with 10 parts water. In total darkness, immerse films in this solution for two minutes at 68° F, then transfer to the developer. After one half the developing time has elapsed, films may be inspected for 10-second periods at intervals of one minute. Films should be held 2 to 3 feet from the safelight during inspection, and between inspection intervals the safelight must be turned off. Developing time for desensitized film will be about 50% above normal.

Also pinakryptol green may be added directly to a developer which contains no more than 15 gr. (1 gm.) of hydroquinone in each 32 oz. In this case use 1 part

stock solution to 30 parts developer and proceed as before. *Note:* Pinakryptol yellow cannot be added to the developer, but must be used as a forebath only.

Inspection development, of course, calls for practice before you can achieve exactly the desired degree of contrast and density. Remember that ordinarily negatives are inspected after the emulsion has been cleared by the hypo. When viewed before fixing, the negative appears quite dense. Since it's not possible to give the film careful inspection during the ten seconds allowed, watch first the

over-all density of the negative. When a negative is fully developed, the emulsion side is almost completely blackened except for the deepest shadow areas.

A simple way to acquaint yourself with the procedure, and with the appearance of negatives being developed, is to combine standard time-temperature methods with desensitization. Follow the above procedure, but set a timer adding 50% to the recommended time. When development is half complete begin periodic inspections—10 seconds each minute—and continue for remaining development. Don't rely upon the visual inspection—simply note the appearance of film during development.

Unfortunately pinakryptol solutions are subject to deterioration by bacteria growth. This danger, however, may be overcome by preparing the solutions with a 50-50 water-ethyl alcohol mixture rather than with plain water. If stored in well-stoppered brown bottles, pinakryptol solutions will keep for several months. As a rule, the desensitizer will be used up before being exhausted.

GEORGE BOARDMAN



# WATCHES & WEATHERVANES

By BEN ROSE

For the news or documentary photographer manipulating the negative or print is a sign of weakness. Not so with the illustrator! He may be called upon to use all of the tricks of the trade to get a special effect; double printing, composites, local bleaches and intensification are all fair game.

For instance, when I made this photograph of the watches and the weathervanes for *Town and Country*, a straight print from the negative was very confusing. The watches were camouflaged by the contrasty background. Yet the weathervanes, with their connotation of travel were desirable, *Town and Country's* art director wanted the watches to say "Put me on your wrist."

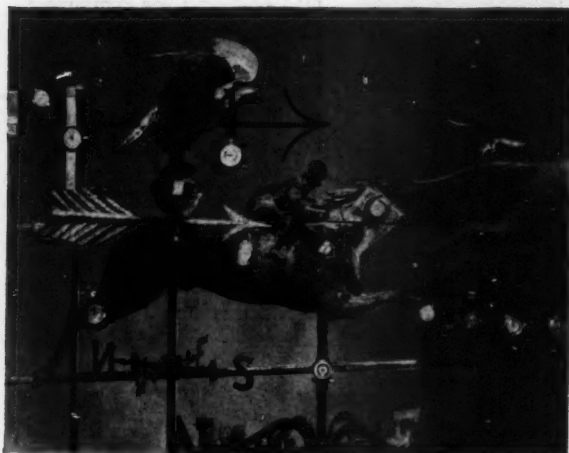
To make the photograph illustrated here, required selectively reducing the contrasts of certain portions of the negative. The method I used was a variation of that used by photo engravers before copying color transparencies.

## A Quick Look at Density Ranges

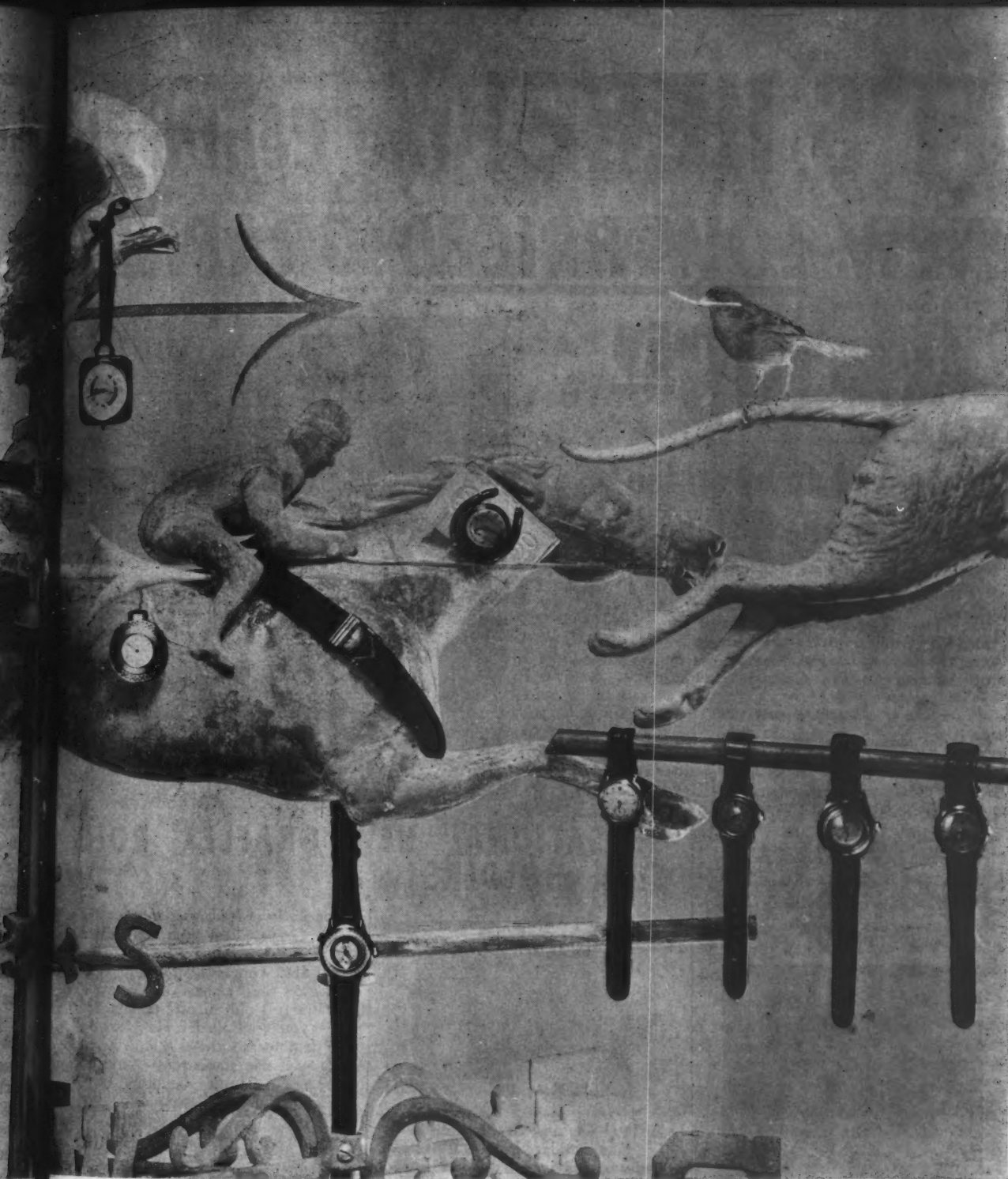
Let's take a brief look at the theory of this density reduction method in order to get an idea of how it works. Roughly, we can assume that a negative is divided into two sections. Section 1 is the transparent area which, in the print, becomes the dark area, as every photographer knows. Section 2 is dark in the negative and becomes the light area in the print.

Assume also that Section 2 has a density (a measurement showing the amount of light that can pass through the negative) 30 times that of Section 1. Consequently, the negative's density range is 30 to 1.

THE STRAIGHT PRINT, below, and the fanciful final print, right, were both made from the same negative. Ben Rose tells how he used "know-how" to make a magic transformation.



Now, suppose that you make a positive transparency of this negative by projecting a light through it onto film, in much the same way as slides are made. The images in the positive transparency would coincide with those of the original negative, except that the transparent part on the negative would be dark in



the positive, of course. In the process you can vary the contrast by controlling exposure and development.

If Section 1, the transparent area in the negative, is exposed and developed to only half of the maximum density of the negative (that is,  $\frac{1}{2}$  of 30) in making the positive transparency, the following would result:

a. The dark part of the positive, resulting from exposure to Section 1 of the negative will have a density of 15.

b. The light part of the positive, resulting from exposure to Section 2 of the negative, will have a density of approximately 0.

*Continued on page 110*



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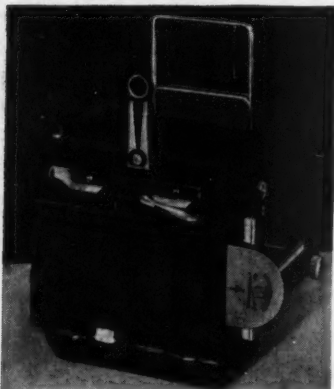
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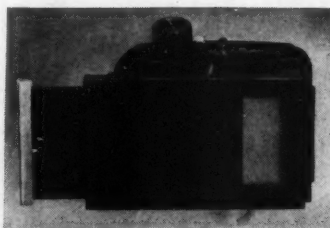


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In addition, the Century has the new GRAFLOK back (now available as an accessory for all Graphic  $2\frac{1}{4}$ " x  $3\frac{1}{4}$ " cameras) that enables you to use the new roll holder interchangeably with standard Graphic accessories. All in all, here's the camera you've been waiting for—see it now at Graflex Dealers!



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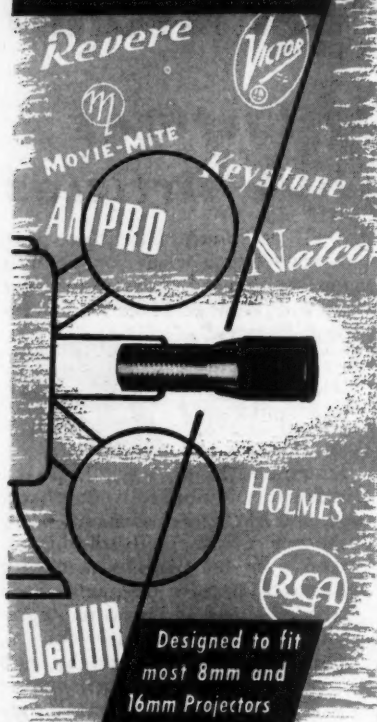
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## salon calendar

★ follows P. S. A. recommended practices

Closing Date	Name of Salon Date of Exhibition	For Entry Blank, Write to
Exhibit to see	24th Annual Salon of Photography. The Museum of Fine Arts of Houston, Houston, Texas, October 16 - 30	
September 30	*III Cuban International Salon of Photography. Club Fotografico de Cuba, O'Reilly 366, altos, Havana, Cuba, November 15 - December 10	Dr. Alvaro Prieto, Secretary, Club Fotografico de Cuba, O'Reilly No. 336, altos, Havana, Cuba.
October 3	Western Salon of Photography. Victoria Art Gallery, Bath, Somerset, England, October 13 - 29	P. B. Lauder, 11a Entry Rise, Combe Down, Bath, Somerset, England.
October 15	First International Pictorial Photographic Exhibition. Niharika, the Club of Gujarat Pictorialists, Kochrab, Ellis Bridge, Ahmedabad, India, January	D. C. Engineer, Secretary, Niharika, the Club of Gujarat Pictorialists, Kochrab, Ellis Bridge, Ahmedabad, 7, India.
October 24	*2nd Minneapolis Color Slide Exhibition. Y.W.C.A., Minneapolis, Minn., November 15, 16, 17	Warren Anderson, 113 S. Sixth St., Minneapolis, Minn.
October 29	*2nd Annual Magic Empire Color Exhibit. November 11 - 15	Joe E. Kennedy, 1029 Exhibit Chairman, 1029 Kennedy Bldg., Tulsa 3, Okla.
November 1	*18th Minneapolis International Salon of Photography. Minneapolis Institute of Arts, Minneapolis, Minn., December 3-31	Warren Anderson, 113 S. Sixth St., Minneapolis, Minn.
November 26	*Fifth Salt Lake International Color Slide Salon. Salt Lake City, Ogden, Provo, Logan, Utah, December 7-14	S. Wayne Smith, M. D., 1086 East 21 South, Salt Lake City 6, Utah
December 1	31st International Los Angeles Salon of Photography. Art Center Gallery, 5353 W. Third St., Los Angeles, Calif., January, 1950	Herman Wall, Secretary, 672 S. Lafayette Park Place, Los Angeles 5, Calif.
December 7	*5th Mississippi Valley International Salon of Photography. Auditorium of Stix, Baer, Fuller, St. Louis, Mo., January 9 - 22	Noel F. Delporte, Gen. Salon Chairman, 586 Stratford, St. Louis 5, Mo.
December 12 monochromes; December 15 slides	*18th Detroit International Salon of Photography. Detroit Institute of Arts, Detroit, Mich., January 22 - February 12	J. Barrett Burnell, Secretary, 19429 Forrer, Detroit 9, Mich.



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**Coffee Break**

*Continued from page 8*

lamponing the original idea, everyone concerned is relaxed. From then on it is a cinch to settle down and do the job right."

**He Should Have Worn Kilts**

We didn't see this — but we wish we had been there to photograph it. George Boardman, who handles *Photo Data* this month, was making a set of beach pin-ups recently when his model, Diana Nichols, stepped off a ledge into a deep hole. There was a strong undertow and Diana promptly vanished from sight. George dropped his Speed Graphic in the sand, ripped off his shirt, and tried to get out of his pants, the pockets of which were crammed with film holders. Somehow he forgot to kick his shoes off first . . .

When the model bobbed to the surface for an instant she was fifteen yards out in the swirling water and headed in the general direction of China. George, by this time, had lost his balance and was flopped on his back like a doodle-bug, both feet wedged crosswise in the pants legs where his knees should have been.

Meanwhile, Eva Marsh, his assistant, had scurried to the water's edge. Just as she got there a king-size breaker abruptly deposited Miss Nichols at her feet. Luckily the sputtering girl was none the worse for her experience except for having a few scratches and being thoroughly scared.

Thinking of the episode in terms of pictures, we can't decide which of two photos might have told the most poignant story—the action that took place at the beginning, or Boardman's face as he reversed direction in the pants-struggle under the gaze of two highly unimpressed women.

**Postscript**

The Leonard McCombe-John Bryson article "Picture Of A Fighter" in the September issue of *Modern* brought in a surprising amount of reader mail. Most of the letters, however, ended on the same note: "What happened to the young fighter, Vince Foster, from the point where the article left off?"

When we went to press, there was no final chapter, but there is now—and it isn't very cheerful. Soon after Vince Foster had bailed himself out of jail, his manager, Jack Hurley, cancelled the big fight at Madison

Square Garden, losing an estimated \$30,000. After that, Foster entered the ring again and was felled ignominiously in the first round. Nothing more was heard of him until July 18 when most metropolitan newspapers carried an item on the sports pages reading: "Vince Foster Killed When His Car Runs Into Tractor-Trailer." It happened at Pipestone, Minnesota. The 19 year old girl with Foster at the time was also killed; two of the three other persons with him were critically injured. Jack Hurley said: "He was a great fighter with dynamite it both dukes. Boxing lost in Foster one of the game's potentially great performers."

**Now We Know**

Rumbles and rumors of what goes on in the German camera factories in the East Zone have always reached us exuding strong odors of borscht and vodka. Until recently, that is. The other day we got what appears to be a straight, though meager, report supported by an actual photo, of what is being turned out at the Zeiss-Ikon factory at Dresden. It is an improved Contax camera called the Contax "S," and it seems to have several exciting innovations.

Gone are the older model's eye-level rangefinders, fussy shutter systems, and the bayonet mounts for interchangeable lenses. The Contax "S" sports an eye-level reflex optical system for focusing, a simplified shutter mechanism providing speeds of 1 second to 1/1,000 second on a single setting dial, and screw-in lens mounts for interchangeable lenses. The standard lens is a coated F:2 Biotar, with F:1.4 and F:4 Biotars listed as accessories. These are the major changes and we assume that there must be a good many minor ones as well. If and when we get more reliable data, we'll pass it along. Meanwhile, though, don't give in to that natural impulse to write us for the price, more details, or to learn where the Contax "S" is available. We're wrung dry.

**Scoop**

The State Department article in this issue, titled *Pictures Sell Peace*, makes us rather proud since we believe *Modern* is the first photo magazine to give complete coverage to this interesting subject. Next month, we have another "first" lined up for *Modern's* readers—this one concerning electronic flash. We think you'll enjoy it.

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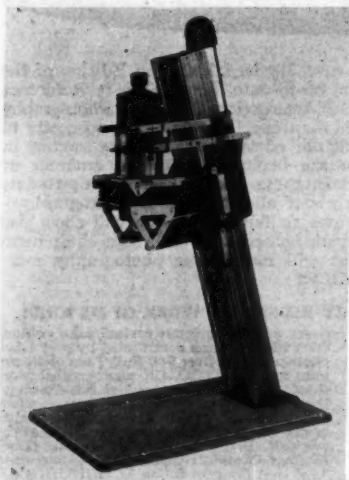


## new products

### The Omega B-4

Among experienced darkroom workers an Omega Enlarger scarcely needs an introduction. Simmon Brothers' latest addition to their popular enlarger line is the Omega B-4, companion to the auto-focusing Automega B-3.

A manual focusing model, the B-4 accepts negatives from 35mm to 2½x3½" and has a rotating glassless negative carrier as standard equipment. Other features of the new Omega include: rigid, inclined extruded girder



construction for vibrationless operation; rotation of upright for making enlargements on floor; spring-counterbalanced enlarging head; interchangeable lenses from 2" to 3½"; variable condensers, which match enlarging lenses and direct light through optical center of lens. If the new Model B-4 is built to previous Omega standards of quality, the price seems reasonable enough—without lens, the enlarger sells for \$99.50 plus \$16.58 Federal Tax. Details and further information on the B-4 can be obtained from your photo dealer or by writing...

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### 2½x3½ Cold Light

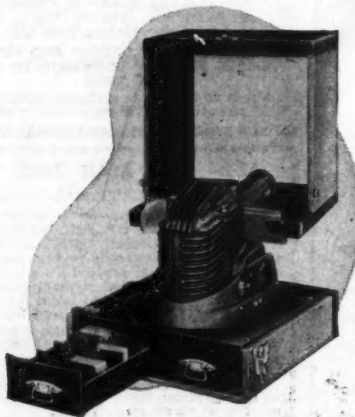
Cold light in a new package is the latest word from Aristo Grid Lamp Products, makers of gas-filled tubular

lamps for enlargers. Designed in the popular 2½x3½" size, the new Cold Grid Lamp will fit all standard 2½x3½" enlargers and is packed ready to install. It is equipped with an opal glass diffuser and W45 grid lamp which gives fast, white light having a color temperature of 4500° K. The lamp grid is designed to cover the entire negative with an even distribution of light to insure against troublesome hot spots. The light intensity is equivalent to 150 watts tungsten, but like other gas-filled lamps, current consumption is low (23 watts). Since the lamp starts instantly on any switch, it can be used with timing devices. Cold Grid Light's biggest advantage is provided by its low operating temperature of about 115° F.—guaranteed not to roast or buckle negatives. For prices and further information on Aristo Cold Grid Light in the 2½x3½" and other sizes, write...

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### New Baja Projector Case

An addition to Baja's line of deluxe slide file cases for popular makes of projectors is their design for the GoldE Manumatic Projector. Providing space for 300 2x2" glass slides or 900 readymounts, the new case has two removable drawers that are



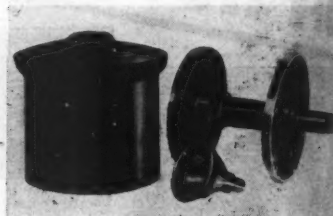
interchangeable with standard drawers in other Baja portable cases and slide filing cabinets. Other dividends of compact designing: an extra com-

partment for accessories and a miniature screen built into case cover. Constructed of all-plywood, the case has a two-tone covering of leatherette and aerotweed. It is priced at \$13.00 and answers to Model No. RG 300. Also available are Baja slide file cases for the Kodaslide Table Viewer, TDC Vivid, S.V.E. Model AK, and Stan projectors, at varying prices.

BARNETT & JAFFE  
633 ARCH STREET  
PHILADELPHIA 6, PA.

### Uniplex, Kinoplex Tanks

"Professional agitation" is the big feature claimed for the new Uniplex and Kinoplex Developing Tanks, which are designed to permit agitation both by rotational and vertical movement of the reel. Made in two sizes, the Uniplex is an adjustable model for standard film sizes between 35mm and 116



roll film, while the Kinoplex is for 35mm film exclusively. The tanks are constructed entirely of bakelite and, at extra cost, may be equipped with a clear plastic reel to facilitate the "second exposure" required when processing color film. A separate bakelite funnel is included with every tank. Price of both Uniplex and Kinoplex models is \$4.25 each, plus Federal Tax of 20c.

FREDERICK D. FISHER  
207 EAST 84TH STREET  
NEW YORK 28, NEW YORK

### Premier Easel

Photographers with short tempers should get more pleasure from their print-making if they're using the Premier Enlarging Easel. Featured in the new easel are two automatic clamps that grip the printing paper as frame is lowered and prevent twisting and slipping. Also designed for ease of operation are the graduated twin guides that permit various combina-

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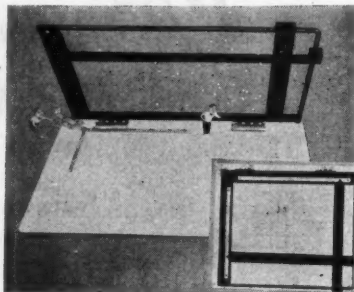
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tions of border widths and assure squareness. Easel construction is all-metal with a white-finished top sur-



face for sharp focusing, while a felt pad covers completely the easel base. Sliding masking bands are of spring steel and have scales graduated in 1/32" for setting print size. The Premier Easel is available in a Junior 8x10" model at \$8.00 and an 11x14" Senior model priced at \$9.50. Prices do not include Federal Tax.

PHOTO MATERIALS CO.  
55 EAST 26TH STREET  
CHICAGO 16, ILLINOIS

#### Dry Mounting Press, Junior Size

Photographers who have given up the idea of owning a dry mounting press because of the expense involved may want to reconsider after seeing the new Fotoflat Junior model announced by Seal, Inc. Designed especially for the advanced amateur and small studio with a limited budget, Fotoflat Junior provides professional mounting facilities at comparatively low cost.

The new Junior model is precision built of heavy grey iron and carburized steel and has many of the fully



automatic features of the larger models, such as automatic thermostatic control that assures correct heat—with no switches to adjust nor thermometers to watch. A resilient base provides uniform pressure over the entire print

to eliminate ridges and bubbles and a built-in pilot light tells when press is at proper temperature for mounting. Open on three sides, the new press mounts prints as large as 16x20" in sections, or 8x10" prints in one operation. Fotoflat Junior is priced at \$49.50, complete with a thermostatically controlled tacking iron, and is now on display at photo supply shops.

SEAL, INCORPORATED  
SHELTON, CONNECTICUT

#### Noted in Passing

**Flexichrome**—a new color-conversion process for professional use developed at EASTMAN KODAK COMPANY. The technique uses color dyes, applied with brushes, to convert a special photographic print to a full-color picture. Briefly, this is the process: The print, made from a black-and-white negative on special stripping film, is treated to give a relief image with gradations in tone represented by varying thicknesses of gelatin. The different print areas then absorb the dyes in proportion to the thickness of the gelatin relief image, thus reproducing the tonal gradations in color. Unlike other tinting and coloring processes, Flexichrome uses true dyes that chemically replace one another as each new color is applied. The process was named for its flexibility, since the colors in the print may be removed, altered, or replaced at any time.

A new 3-way plastic flash shield is now available from GLO-BRITE PRODUCTS, INC. The outfit consists of a steel snap-on frame with three interchangeable plastic shields—blue, transparent, and diffusion—and sells for \$2.25. Details may be had by writing 6415 North California Avenue, Chicago, Illinois.

#### New German Magazine

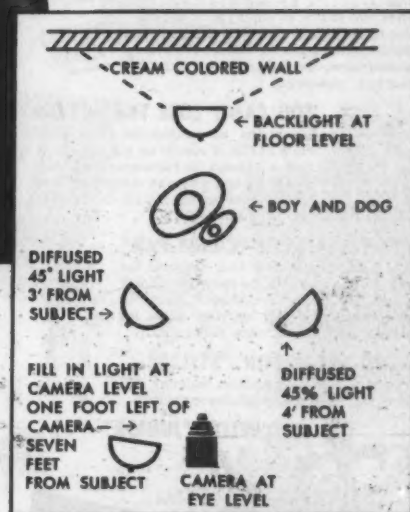
Not only are the Germans back in the market with their cameras, but they have turned out an exciting new photographic magazine. It is *Photo Magazin*, published in Munich, and edited by Bernd Lohse. The printing is good, and the text strikes us as being extremely adult. The photographs are dramatic because they have something to say. In short, they are a long jump from the old salon types that used to make up foreign annuals before the war. Color is limited to the four covers of the magazine, and compares favorably with color reproductions in this country.



# HOW this picture was made:



The diagram below gives a clear indication of how photographer John Utykanski shot this quizzical picture of his son. It shows the kind of high quality lighting that can be accomplished with four Press 25 Superflash bulbs and the open-flash method!



Here are further details: The Press 25 Superflash bulb is the most powerful midget flashbulb ever made. Four of them being used in the taking of this photo, the photographer had to close down to  $f/32$  . . . which helped give him an extremely sharp negative. B type film was used, developed in a press type developer, and printed on Vitava Opal G paper. The expression was obtained by squeezing a lemon into a glass in front of the subject. *Sylvania Electric Products Inc., Photolamp Division, 500 Fifth Ave., New York 18, N. Y.*

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**previews** films for home screening

**British and U. S. Government Releases**

The films in the following list are distributed by the British Information Service, through various commercial organizations throughout the United States. Information on where to send for them can be obtained from the consular office in your city or your local dealer. The charges range from \$1.25 per reel for black and white to \$2.50 per reel for color. Here are some of the more attractive titles:

**Julius Caesar**—Filming of the famous Forum Scene, Act I, Scene II (19 minutes)

**Your Children and You**—The care of children from birth to the age of four or five (31 minutes)

**Steps of the Ballet**—Basic positions and movements of the ballet (23 minutes)

**The World Is Rich**—The world's food problems and the U. N. proposals for solution (22 minutes)

**Voices of Malaya**—Life in Malaya today (35 minutes)

**Here Is the Gold Coast**—Social and economic progress in West Africa (35 minutes)

These excellent and entertaining films are desirable, not only for educational purposes, but make good fillers to round out an evening's entertainment in the home.

Also available through your local film dealer are the official U. S. Government war films. A few of these added to a home program would supply a bonus for the men.

Some suggested titles are:

**Battle of Britain**—5 reels, service charge \$2.00, U. S. Army

**Advance Base**—2 reels color, service charge \$1.00, U. S. Army

**Fury of the Pacific**—2 reels, service charge \$1.00, U. S. Army

**Fight for the Sky**—2 reels, service charge \$0.50, U. S. Army

**Target Berlin**—2 reels, service charge \$0.50, U. S. Army

**Flight Over McKinley**

16mm silent, b & w.

Hal Linker Prod.—International Film

This is one of the Father Hubbard series which, when reviewed was marked "test run" and silent. No doubt dialogue will improve it greatly.

Father Hubbard is shown looking out of the window of the plane as the flight begins to Mt. McKinley. The pilot circles an active but temporarily dormant volcano from the cone of which plumes of steam are arising. The camera takes a long sweep from almost directly downward where the tremendous glaciers of Mt. McKinley are shown up to the mountain itself which stands completely unhidden by mist or haze of any sort. This spectacular scene shows Mt. McKinley and eighty miles of its glaciers plus the jagged forbidding surrounding lesser peaks which look like a snow-capped bed of spikes. Three minutes.

**Woody Woodpecker**

16mm sound, color (Available only to Film Libraries—not for sale).  
Walter Lantz Cartoon, Castle Film, Technicolor

Like all these cartoons, the color and background music of this piece is worth the price of admission. Of special interest to little boys, since Woody, who is in the army now, wants to fly. Although continually being thwarted by a mean old top sergeant, our hero succeeds in getting aloft. The plane is a wondrous cartoon invention that dumps Woody out and then rescues him, metes out punishment to the stupid top sergeant, and flies through buildings just as well as anything. Of course Woody ends up clipping an endless line of horses, just as things are apt to turn out in the army.

Good entertainment for a Saturday afternoon children's party or the cartoon fan of any age. Seven minutes.

**Home Movie Package**

Our family or party show for this month, designed to entertain all ages and interests, at a minimum rental cost is:

**Indian Hunters (children)**, Castle Films, 445 Park Ave., N. Y.

**Target Berlin (men)**, U. S. Gov.

**Your Children and You (domen)**,

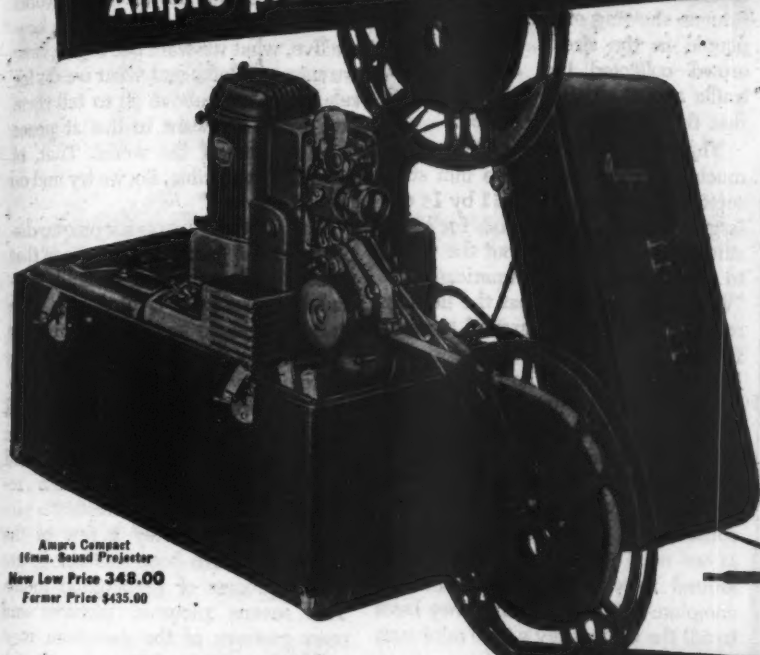
British Information Service

**There Goes My Heart (the whole family)**, starring Frederic March and Virginia Bruce, Post Films, 723 7th Ave., New York City.

EDITH SHEPPARD

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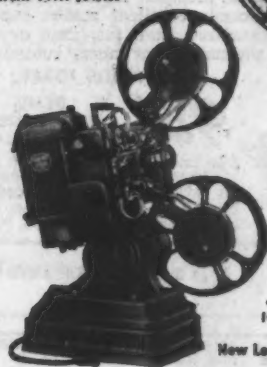
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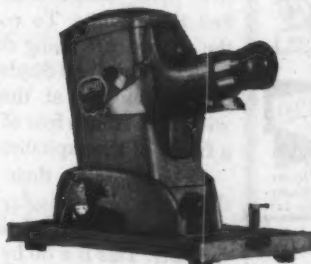
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## Pictures Sell Peace

Continued from page 28

hour or so to relax and educate ourselves in watching such shows, we wish there will be stations either outdoors or indoors established for the sake of mass education, added one of them who looked like a laborer."

In Lisbon the Embassy installed an automatic machine that put on a continuous showing of the film strips for people in the streets. Such a large crowd collected that they stopped traffic and the police had to request that the machine be removed.

The photo display section does much the same job as the film strip section except that it uses 11 by 14 enlargements up to wall murals for expositions and fairs throughout the world to tell the story of American life. "When you consider that the literacy rate for the world is around twenty-five per cent," says Harry Casler, who heads this section, "You can see how important it is to use photographs to tell our story. We produce a photo exhibit built around some particular subject like trends in American architecture or highway construction or soil conservation. We use as many pictures as we need to tell the story, usually around forty or fifty, and send out complete 210 sets of them. They have to tell the whole story with a minimum of explanation and the pictures have got to be of such interest that people, in some unfriendly countries, will risk the displeasure of their own governments by coming to see them."

The photo display pictures are shown in our own information libraries and in schools and other public places where the foreign government will allow it. In some of the iron curtain countries it was found that observers were being stationed to see who visited the exhibits. To counteract this, the pictures are being shown in street level windows and display cases where people can look at them in passing without too much fear of being labeled a friend of the capitalist-war-mongers.

In addition to their photographic shows the photo display section turns out lithographed picture pages in quantity. This is a 30 by 40-inch sheet with from five to eight pictures that tell a short, interesting story. English captions printed on some of the pages and the others are left blank for a translation to be printed in the country to which they are sent. An unexpected by-product of this system is the

use many foreign schools find for it in teaching English. The information officer in Havana, Cuba, requested 10,000 of each issue of the page for this purpose.

"If we could do it," Casler says, "we would take a farmer from Montana and a miner from West Virginia and a New Yorker and a Californian and a lot of other types and send them overseas to meet the people of the world and talk with them and tell them how we live, what we want out of life, how we raise our kids, and what we do for relaxation, and, above all to tell them how much we want to live at peace with the rest of the world. That, of course, is impossible. So, we try and do it with pictures."

Many of the subjects for picture displays are suggested by questions that reach Washington from the field. Bagdad, for example, wanted a picture story that would show our solution to the traffic problem; Belgrad asked for a photo story on water sports and highway construction; Cairo sent word that the Egyptians were interested in trends in American architecture and furniture design; and Formosa requested forestry and reforestation pictures. These are only a few of the stories that have been sent out or are in the process of preparation today. This means pictures, pictures and more pictures of the American way.

The Acquisition Section has the job of securing photographs for all of the operating sections. Bill Bennett, the section head, and his associates look over thousands of pictures from newspapers, magazines, press agencies, picture agencies and free lance photographers searching for prints that can be used. When they fail to find a photograph that fills their need they give the assignment to one of the five photographers that the State Department hires to do this work. To complete the coverage of the hay lift operation last winter, Bennett sent Carolyn Ramsey, one of the section's photographers, into Colorado where she flew in the big cargo planes that delivered the fodder.

Miss Ramsey, a former free-lance photographer for SATURDAY EVENING POST who looks more like a model than a photographer, had to be roped to the side of the plane near the open cargo door to get her pictures. She thought this sub-zero assignment was the worst of her career until a few months later she was sent to steamy Imperial Valley where she blistered her hands climb-

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Model  
269



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\*\*Basis for this statement is contained in a factual report in the hands of Federal Manufacturing & Engineering Corporation

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ing an iron ladder for a high shot and saw a tourist die of the heat on the road.

Often the section will have to send its photographers out to get a single picture to fill in a set they have acquired. One such shot was of a train coming out of a tunnel. The section sent their man, Tom Parker, out on the job. He was promptly picked up by the security minded Pennsylvania police who had to be convinced that he was not out to sabotage tunnel number 22 on the mainline.

The work of the whole Photographic Branch is directed and coordinated by Eugene Brown who has a keen eye for a good print and can spot a phony at ten yards. "Our main strength is in showing an honest picture of American life," Brown says. "Not the spectacular, the extreme, or the posed, but the everyday life that we all live, shown with dramatic, clear photographs. We don't try to show the enormously rich or the destitute poor in photographs because they could be taken out of context and used against us, we are out to show the middle group which is the bulk of the people of our country.

One of the most spectacular activities of the Office of International Information is the slick-paper magazine AMERIKA. One of the most beautiful magazines published anywhere, AMERIKA is now going into its fifth year as a Russian language publication and is starting a Czechoslovakian edition. Not only does AMERIKA present the Russians with our way of life in well written stories illustrated in color and black and white, but, as an added attraction to the taxpayer, it brings a sizeable return. The 72-page, LIFE-sized monthly is distributed by the Soviet agency Soyuzpechat and sells for 10 rubles (\$1.23 at the pegged rate of exchange). The distribution agency keeps 25 per cent of the selling price and the rest of the Moscow gold trickles back into the U.S. Treasury office. Though it is one of the more expensive magazine on the Russian newsstands 50,000 copies which we are permitted to send each month sell out with a few days. The lucky first buyer sometimes re-sells the magazine at a handsome profit (a nasty thought in Russia) and the magazine is passed on to other readers. Mrs. Marion Sanders, the dark-haired young editor of AMERIKA, estimates that the magazine is read by

a million Russians from Baku to Pitlekai.

How do we get our magazine in a country that won't let its editor pay a friendly visit? Russia originally agreed to the distribution of 10,000 copies of a bi-monthly magazine back in 1944 when America's interest in the war suited them to a "T." In 1946 Ambassador Smith secured permission to change the magazine to a monthly and step up distribution to 50,000. When he retired, Ambassador Smith commented that if he had accomplished nothing else, his success in getting more copies of AMERIKA to Russia made his mission worth while.

The magazine depends on accurate, interesting stories and good pictures for its effect on the Russians. Honest stories, illustrated with four or five or a couple of dozen good pictures, about farming or American trade unions or the latest fashions may not seem to be good propaganda, especially when we admit our faults and problems. But Mrs. Sanders believes that if we can tell a convincing story of our way of life the reader will draw his own conclusions. Sometimes it is hard to be both honest and convincing. In one story, for example, a picture was used showing a group of factory workers on an assembly line. "Obviously a propaganda lie," was the reaction of one Russian reader. "It is absurd to try and make us believe that so many factory workers would own wrist watches!"

Another point that strains their credulity is that we should be willing to photograph and describe industrial techniques and medical discoveries which, in their own country would be withheld as top secret information. One of the translators who was engaged in Moscow to translate a story on plywood production and uses was amazed that we should let such information get out of the country. He discussed it with one of the Embassy staff and finally came up with what he considered the hitch. "Ah, but you do not give the pressures and temperatures which you use in binding the plys together!" Not in a popular article," he was told, "but in America you could buy technical journals which would carry that information." "This you've got to show me," was his attitude.

All of the articles are translated in Russia in order to keep the language in the idiom of the people. This makes for a real editorial headache. The articles are written in English in New



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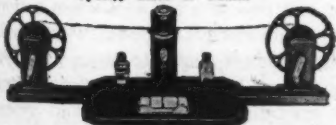
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York; shipped to Moscow where our Embassy farms them out to translators; sent back to New York where our own translators read them carefully to see that the Communist translator hasn't thrown us a curve; printed; and shipped back to Moscow for distribution. At the time of translation the articles are censored by the Russian Government, but, to date, only about 50 words have been deleted.

The State Department's picture editors are constantly on the look-out for picture series that show an industrial process or an agricultural development or the day-in-the-life-of kind of coverage that shows a normal American or unusual jobs (but not the rural mail carrier which, for some unknown reason, has been photographed by everyone who can hold a camera). They are very anxious to get pictures of our cultural life (which the Russians claim is non-existent) particularly when it is a spontaneous local thing such as a neighborhood string quartet or the painting class of the Ladies' Aid Society.

The attacks that are launched at the magazine by PRAVDA and IZVESTIA are only one way to judge its effectiveness. Comments by individual readers show that it is putting its message across. A Russian railroad worker, reading about the life of an American railroad man, was surprised to see the picture of the attractive home of his American counterpart, but was apparently able to believe that it was so because, "the details given of this man's working life are very real."

A Communist Party member who is an officer in the Red Army dismissed the whole magazine as nonsense when he first saw it. Later he admitted that two technical articles in the issue had been fully covered and clearly written and that the rest of the magazine might be worth reading for its explanations. And a woman who saw photographs of a festival held by Americans of foreign descent expressed great surprise and real approval of this "manifestation of democracy."

In industrially backward countries this program of showing America to the world is changing the attitude of the people from one of envy to a belief that they too can achieve a higher standard of living through the same processes that have brought us to world supremacy in this field. As one old man, looking at a photograph of a modest family home, said, "I know that I will never see these things here

in Taiwan in my lifetime. But the pictures give me hope. They show me what our future can be like."

## Sunset on the Beach

Continued from page 43

normal result. (If the camera on the tripod happens to be about 8 ft. away we can use this front light mounted right on the camera. If not we'll have to put the "On-the-camera" bulb and reflector on an extension, and either clamp it onto a stick stuck in the sand, or have someone hold it. But it will still be placed so the light will be coming from the direction of the camera.)

Mr. Miller also used a "kicker light" off to the left of the subjects. The main purpose of an extension light used on the side is to provide modeling and highlighting. Its position, then, depends upon the result desired. In this case the mood of twilight was sacrificed in order to obtain extra light on the two subjects at the left. No attempt is made to disguise the light as a "natural" source.

Had realism been the idea behind the picture, the feeling of twilight could have been strengthened by moving the extension light 8 or 10 feet away from the subjects. The light at the camera, in this case, would also be moved back to a distance of 9 or 10 feet from the subjects.

Once the fire has been lighted, progressive meter readings should be taken all the while the blaze is building up. The fire should be considered the same way we considered the sunset because flashbulbs will have no effect as far as the light from the fire is concerned. Readings should be taken with the meter held a few inches from the flames; when the reading from the fire is about equal with that of the sunset, you are ready to shoot. You will either have to yell "hold it!" a second before you shoot, or else choose a moment when action is momentarily stopped. For while the flashbulbs operate at an effective speed of 1/50th second, the shutter is operating on 1/2 second and sharp movements during the exposure may register as ghost images between the subjects and the background.

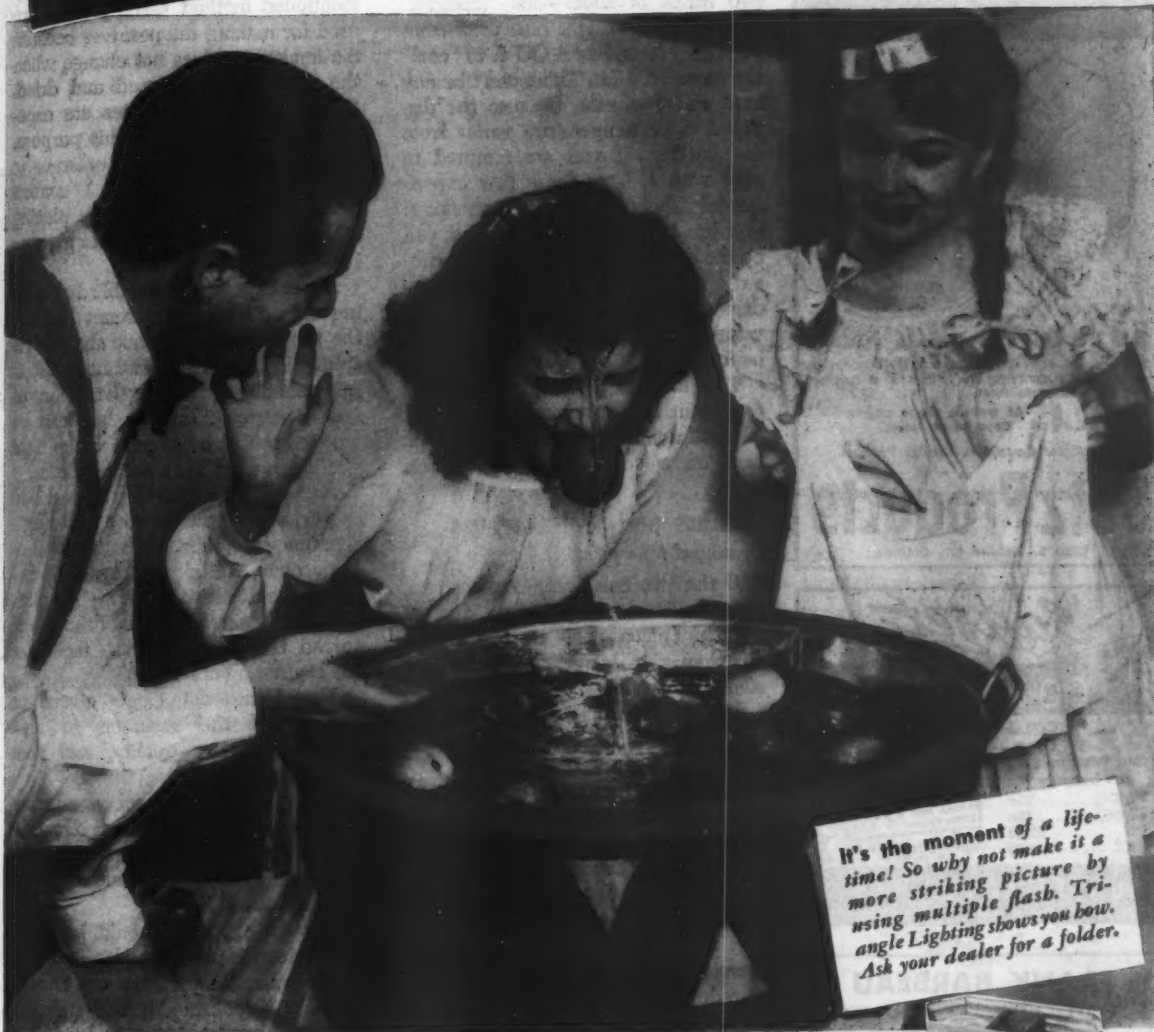
Another trick that might have been used to heighten the impression of realism would have been to place the extension holding a flashbulb (without the reflector) under the twig before lighting the fire. With a log



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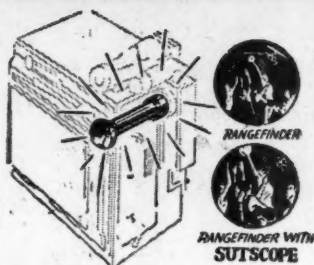
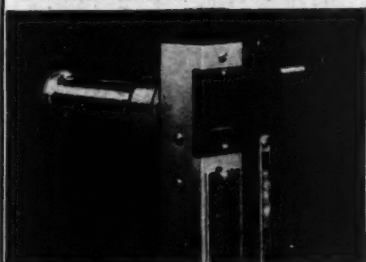
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between the bulbs and the lens to prevent a "flare," the fire could be lighted right over the hidden flash-bulb. From then on it would be a matter of shooting fast and yanking the light cord out before it could catch fire.

At this time of day the light is "warm" with a lot of orange in it, and it might be worthwhile to shoot two series of shots—one "straight," and one using a light blue color-compensating filter, like a CC 4, to "cool" the scene off a bit. There can't be any hard and fast rule, because the distorted color temperature varies from day to day. If you are tempted to play with a filter for a few experimental shots, however, remember that the light on the foreground will be the correct color temperature without a filter. In the long run you may decide not to tamper with the correct values in the foreground, and let the background be a bit off-true color.

This kind of picture in color is a tough nut to crack; but like any hard job well done it will be a treat to look back on when you're a grandfather.

## Watches and Weathervanes

*Continued from page 91*

If the two transparencies, negative and positive, are combined and in register (placed one on top of the other so the images coincide) the combined Section 1 area will now have a density of 0 plus 15 or 15 and the combined Section 2 area will have a density of 30 plus 0 or 30.

By this method the area of lightest density had been increased from 0 to 15, while the density of the darkest area remains the same, 30. The density range has been altered, therefore, so that it is now 30 to 15, or more simply, 15 to 1. And, despite the fact that a weak positive image has been used to reduce it, the resulting image is still negative.

## The Working Model

My first step in making this picture was to determine the maximum depth of tone (grey value) I wanted in the vanes. It was important that the full contrast range be retained in the watches.

I selected a tone for the vane background and with a densitometer (an electrical instrument for measuring densities). I then read the density of the exact spot on the negative which gave this print value. This value was

to be the deepest value in the background on the positive transparency.

It is not necessary, of course, to have a densitometer to do this. Visual inspection and the trial-and-error method will teach the photographer how to determine the deepest value he wants and expose for it.

The next step was to make the positive transparency by the previously mentioned method. Glass plates were used for making the positives because the image size does not change when the plates are processed and dried. Eastman Kodak 33 plates are especially recommended for this purpose.

I used my Omega 4x5 enlarger to make the positive. Then I contact printed the 8x10 negative by placing it and the E.K. 33 plate under glass on the easel.

An enlarger is preferable for making the positive transparency because the projected light is cone shaped, resulting in a slightly spread image. This makes subsequent registration of images easier. Also, the lens can be stopped so that only the trickle of light needed reaches the sensitive plates.

As a further precaution against bad registration of the positive and negative images, a sheet of Eastman diffusing acetate can be placed face up between the negative and the glass plate before exposure. This will diffuse and spread the image. It also facilitates the registering of images.

No exposure data can be given here because of the variation in light sources, negative quality, and your local electric voltage.

The plates must be processed carefully to get a weak positive image. A developer such as DK50, diluted 1 to 4, is best. Development time should be two minutes at 70° F.

Enough exposure should be given the positive to permit the highlight detail to come through, but not enough to make it look muddy and streaked.

When the plate is dry, it can be positioned with the negative until the images coincide and then fastened with cellulose tape. The negative should first be trimmed down a little so that the tape will contact both the positive and negative transparencies.

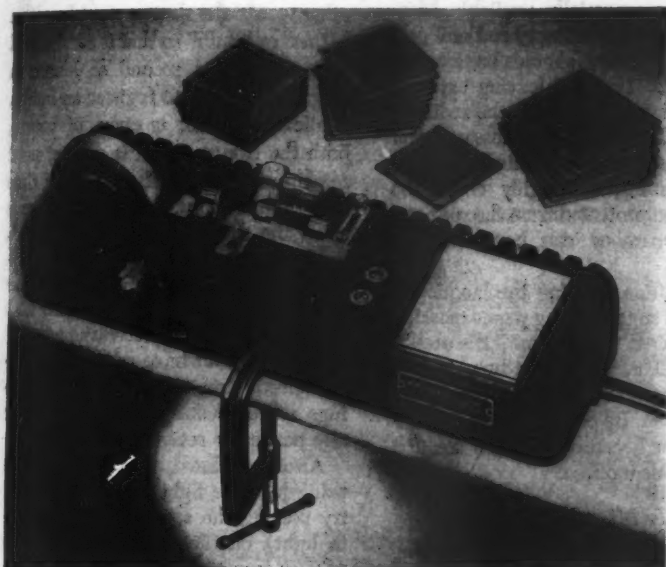
When the double transparency is placed in the enlarger, a beautiful soft and high key print results.

In the case of the vanes and watches, however, I wanted full range in the watches. So I ignored the combining step and continued with an additional step.

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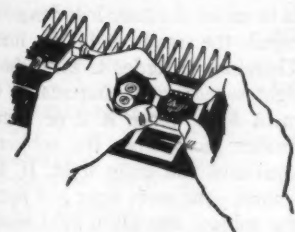


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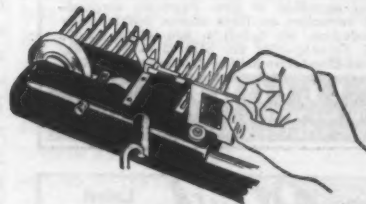
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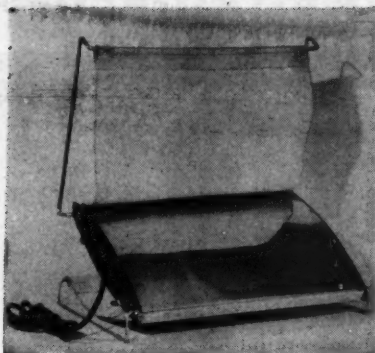
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This involved the removal of the image of the watches from the positive transparency mask. The result was a corrective mask, which, when stripped with the original negative, reduced the contrast of the entire background except for those parts I wanted in full range.

The image was removed by local bleaching or reducing with a concentrated solution of Farmer's Reducer. In order to prevent the other areas of the glass positive from being affected, a resist was painted over them. Lacquer was used for this purpose.

Some photographers may prefer to use the commercially available Mas-koid, or perhaps ordinary red nail polish. The lacquer should be applied with a No. 1 brush, leaving exposed only those parts requiring the reducer.

A word of caution is necessary here. If the resist is not applied carefully and does not thoroughly cover the areas to be protected from the reducer, the transparency can be ruined by leakage.

In addition to using the lacquer as a resist, I suggest using paper masking tape, applied in strips until the area is covered. This is of great help in protecting the positive against the reducing solution. Be careful not to use cellulose tape because any water solution will wrinkle it off.

### An Easily Mixed Reducer

Here is a good formula for making your own reducer. Mix 60 grains of potassium ferricyanide in four ounces of water. In a separate container, mix an ounce of hyporice in four ounces of water. When you are ready to reduce, place the transparency at the bottom of a tray, mix together the ferricyanide and hypo solutions and pour into the tray. Do not rock the tray as this might force aside some of the cellulose tape or even the lacquer resist.

The concentrated reducer will remove the image in a few seconds. Then wash the transparencies in running water for ten minutes and dry. Remove the cellulose tape and the lacquer with acetone or lacquer thinner applied with cotton swabs. The result should be a photographic mask with open clear spaces corresponding to the shapes of the sections reduced.

In my negative these clear spaces represented the watches. The mask was then stripped with the original negative, as previously mentioned, and then put in my 8x10 enlarger and printed. If you do not have equipment

to handle 8x10 negatives, the whole process can be carried out with 4x5 or 5x7 plates. No further manipulation is necessary because everything was automatically of the proper value.

Any negative can be used with this technique. Innumerable variations can be achieved.

### Bridge-Lamp Pictures

*Continued from page 84*

When the distance between the main light and the subject exceeds 3 or 4 feet, a fixed focus camera requires either a time or bulb exposure. In other words, the shutter must be set on "Time" or "Bulb" so that it can be held open for half a second or longer in order for the film to register an image. While the shutter is open, of course, both the camera and the subject must remain motionless. The length of time the shutter must be open depends upon the distance between the main light and the subject. The accompanying chart shows how long a shutter must be open for pictures made with varying light-to-subject distances.

Cameras that have adjustable shutter speeds and adjustable lens openings afford several choices of each for any particular setup. (See chart)

After you have experimented with using just one light for your pictures, try placing the second light (the fill-in light) on the opposite side of the subject from the main light. Remember that the purpose of the fill-in light is to make shadows less dense, not to equal the main light in intensity. Therefore, in order to keep the fill-in light secondary in importance to the main light, place it 2 or more feet farther away from the subject than you have the main light. If, for instance, your main light is 5 feet from the subject, the fill-in light should be placed about 7 feet away from the subject on the opposite side.

That's all there is to it. As you gain experience in making indoor pictures, you will gradually become more and more critical of the results. The best negatives you will want to make enlargements from, as has been done with several pictures shown here. You will begin to watch your backgrounds to see that they do not fight with the subject for attention. And you will discover that by varying the light positions until the picture "looks right" in the viewfinder, you can give each picture individuality of its own.



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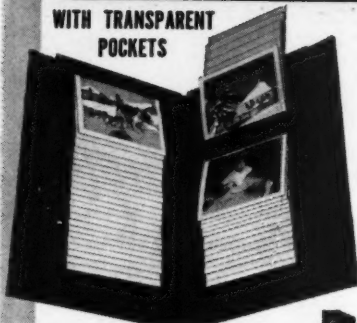
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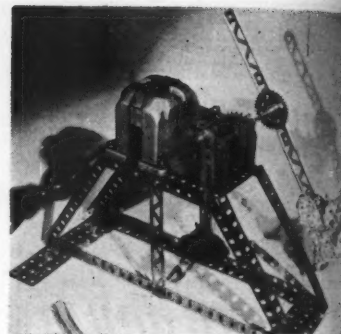
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## Lazyman's Darkroom

Continued from page 79

paper be moved continuously so that fresh developer comes in contact with the paper as the image appears. As long as you agitate the stop bath, prints can be safely left in it for ten to fifteen minutes to accumulate until you are ready to place them all at one time in the hypo.

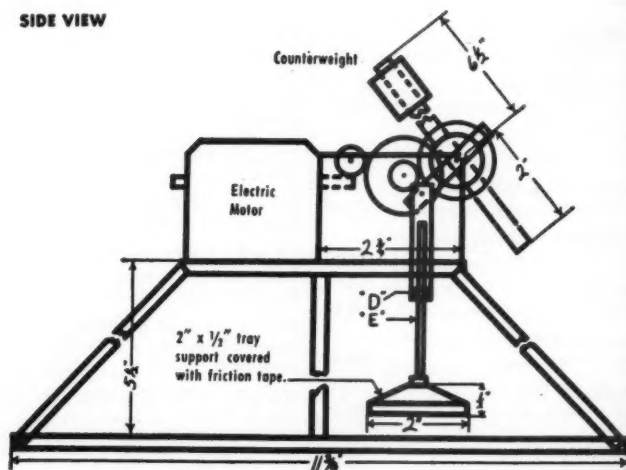
Constant agitation of the prints while they are in the hypo solution is a "must" because irregular agitation often results in the hypo not coming in sufficient contact with the entire surface of the print. In the case of glossy prints this results in their sticking to the ferrotype tin because of insufficient hardening of the emulsion. In fixing the larger papers for mounting and exhibiting, toning is often desirable and if the hypo has not



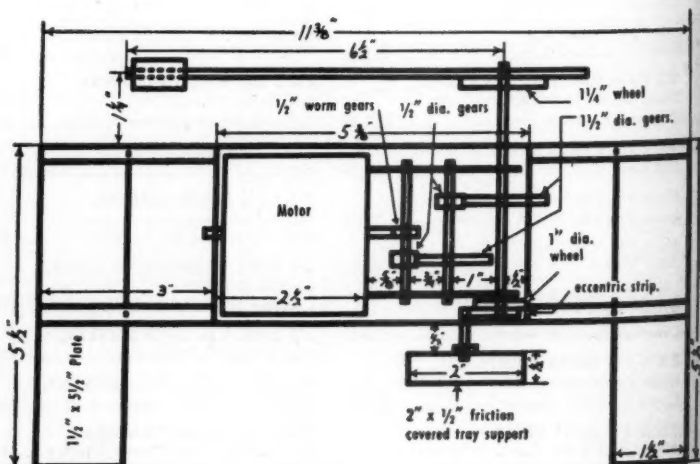
LARGE TRAY AGITATOR

contacted the paper uniformly, the toning will be uneven and spoil the colors. Another reason for careful fixing in the hypo is to give the silver images a permanent form. You've probably seen photographs which have faded badly after a year or so. This is usually due to improper fixing.

SIDE VIEW



PLAN VIEW



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## One Solution to the Problem

Some years ago, while watching my son play with an Erector Set (made by the A. C. Gilbert Co. of New Haven, Conn.), it occurred to me that the set contained all the essential parts I would need to build an all-purpose agitator for the solution of my many darkroom problems. Rather than deprive my son of his fun, I bought a similar set and by purchasing parts to go with it—soon had three complete agitators. Two were heavy duty agitators with counterweights to enable them to rock heavy trays measuring up to 16x20 in size. The third agitator was smaller. I use it for film tank development and the agitation of an 8x10-inch tray for smaller glossy prints. The rugged construction of the motor and the hardened gears in these sets has stood up through constant use these past eight years and show no signs of wearing out as one would ordinarily expect from a child's toy. They are sold in department and local sports and hardware stores so you should have no difficulty in duplicating these designs.

## An Extra Pair of Hands

While agitating can be done by hand, I can do other equally important operations while the mechanical tray agitator is functioning. For example, when I want to make a number of 3x4-inch enlargements of a film strip for careful study of the proper cropping, I start the series by placing the first print in the moving developing solution. While the image is coming up to the required density, I move the negative in the film carrier of my enlarger, re-focus, insert the enlarging paper in the easel, expose it, and by the time I place this new print in the developing solution, approximately sixty seconds have passed and the first print is ready to be placed in the stop bath. It is much easier to leave eight to ten of these prints in the stop bath and then transfer them at one time to the hypo.

## Materials You Will Need.

The small tray and film tank agitator will require the following list of material. Be sure that you purchase an Erector Set which includes the electric motor:

- 2—Base Plates 3" x 12 1/2" for the bottom
- 2—Base Plates 3" x 3" for the two motor support sides

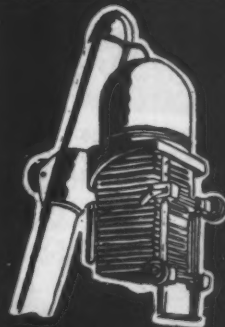
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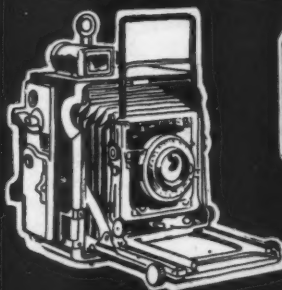
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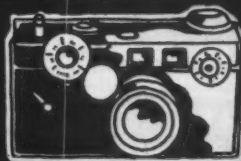
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- 1—Electric motor complete with gear box which includes motor and 1/2" worm gears, one 1/2" dia. 12 tooth and one 1 1/2" dia. 36 tooth gear and shaft (X)
- 1—1/2" dia. 12 tooth and one 1 1/2" dia. 36 tooth gear to insert in gear box for double transmission of motor power to load (X)
- 1—1" dia. pierced disc to use for eccentric (X)
- 1—1 1/2" steel girder to fasten eccentric to tray platform (X)
- 1—2" MV angle piece to bend into tray support to which tray platform is bolted (X)
- 1—Piece of wood 3 1/2" by 8 1/2" by 1 1/2"
- 1—7" rubber hose 1/2" dia. (X)
- 1—1/4" piece of wood 12 1/2" (X 8")

The diagrams show the method of assembling these parts. It is important that a 1" nail be driven into the base wood as the platform has a tendency to work off to that side of the support unless stopped by the nail. It is unnecessary to have a counterweight on this machine because the weights of the 8" x 10" tray or a film tank are not sufficient to require this. The strip "C" should be adjusted in length so that the level of the developer in the tray will cover both ends of a print. My own experience is that the length indicated will do this if the other dimensions are followed.

In making the large tray agitator it is necessary to add an extra set of gears to slow down the agitation of the bigger trays, to enable the small motor to increase its power and lift the heavier 16" by 20" trays. In this case I find it advisable to simply use the top of a table in the darkroom to support the agitator and then place the 7" rubber hose which supports the other end of the tray approximately 3" from the end of the tray. The hose acts as a pivot for the tray. The material needed for this machine requires the same items that an (X) has been placed after on the small tray agitator list plus the following additional material:

- 2—Base plates 1 1/2" x 5 1/2"
- 2—12 1/2" angle girders for base
- 4—6" angle girders for sides
- 2—5 1/2" steel strips for sides
- 1—5 1/2" by 3" base plate for motor and gear box support
- 1—3" gear box bracket "D"
- 1—3" steel rod "E"
- 1—10" steel strip to hold counter weight
- 1—1" diameter pierced disc to screw counter weight to

The friction tape around the lifting hook gives it a sufficient attachment to the enamel side of the developing trays so that same will not jar loose as the tray touches the table at the bottom of its cycle. So far as counterweights are concerned, you will notice in the photograph that I've used five spark plugs. In another machine, I've used some old curtain weights.

The use of these agitators will remove the only uninteresting phase of darkroom work and help to improve your final results in both film developing and print developing and toning.

## Camera with a View

Continued from page 50

when the film is exactly parallel to the subject plane. By tilting the camera upward, he in effect tilted the back. The result was false perspective.

Leveling his camera again so front and back are parallel to the building, he now tries raising the lensboard. Now, some of the foreground has disappeared and the whole building is on the ground glass. By alternately lifting and dropping the front ever so slightly, he finds that he can center the building just as he would like it to appear on the negative.

To really test the versatility we've claimed for the view camera, let's suppose that besides the tall building, the photographer also wants to include part of a smaller building which is to the left and only twenty feet distant. Since his main subject is nearly one hundred feet away, he must focus on two distances at once. With less flexible cameras there is no alternative: stop down the lens for depth of field. The view camera's swinging front, however, offers him another solution if he prefers to shoot with a wide-open lens.

Since the nearer building registers at the right of the ground-glass, the right-hand side of the lensboard goes forward a little bit. Now while the left portion of the lens is still set at infinity, the right is focused at twenty feet and the entire image on the ground-glass is sharp. How much tilt to use is quickly learned by studying the ground-glass.

In this one picture problem, the two functions of the front adjustments were put to work to: (1) center the image on the film; (2) create sharp focus over the entire negative area. Lateral shift and swing do exactly the

same thing that rise

Back A

If the quite all ground-g have been the back shifting include t have no the effect opposite they are view can front co quate. N eras whe cured by diagonally back tilt.

Althoug ments an plementa and fall swings a mon wit the front

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The Ne

There when it perspect course, i as well. graph a controls want to one side and des the cam to one above c from th know to Artistic pleasing placeme recorded

With however tilted un the fron front, to so that

same things in a horizontal direction that rise and tilt do vertically.

### Back Adjustments

If the rising front had not brought quite all of the building onto the ground-glass, greater adjustment could have been made by also dropping the back. The rising, falling and shifting movements (this does not include the tilting actions) of the back have no purpose other than to extend the effect of front movement in the opposite direction. For this reason, they are not found on certain makes of view cameras where the degree of front correction is considered adequate. Neither are they found on cameras where the rising front effect is secured by tilting the entire camera bed diagonally while readjusting front and back tilts to correct perspective.

Although front and back adjustments are interchangeable and complementary in their rising, shifting, and falling movements, the back swings and tilts have little in common with comparable adjustments of the front.

The most common use of the back tilt is to preserve true perspective by keeping film plane parallel to subject no matter what position the camera may be in. If it is used in an attempt to secure sharp over-all focus, perspective will be thrown off.

### The New Outlook

There are a number of occasions when it is desirable to create false perspective in a picture. That, of course, is a function of the tilting back as well. Suppose we want to photograph a radio cabinet so that the front controls are clearly visible. Also we want to show some of the top and one side to indicate the general size and design of the cabinet. Normally the camera would have to set a little to one side of the front and a bit above center. But even to the eye, from this viewpoint lines which we know to be parallel seem to converge. Artistically, this will not present a pleasing picture, and the size and placements of the controls will not be recorded accurately.

With the camera in this position, however, the back is both swung and tilted until it is on a plane parallel to the front of the radio cabinet. The front, too, is adjusted in the same way so that the entire image is sharp. This

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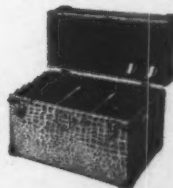
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setup produces a photograph which is ideal for the purpose, even though the perspective is created entirely by the camera and represents a form that doesn't exist in reality.

The back adjustments can thus be utilized to make a model's figure seem longer and slimmer or to increase the apparent streamlining of a car. They can make a round object appear oval, or vice versa. Here is an important reason why illustrators rely so heavily on a view camera. They can show you objects in ways the eyes cannot see them and add glamour by "improving" shape.

The best thing about a view camera is the fact that once you understand the basic functions of the front and back adjustments, you don't need a set of rules to operate them. Just watch the ground-glass as you experiment with various positions. When you see what you want, shoot it, knowing that the picture will look just as it appeared on the ground-glass. That's all the mystery there is to swings and tilts.

## Lenses and Bugs

We mentioned earlier the extreme bellows draw found on a view camera and the versatility this allows in using a wide variety of lenses. It is easy to go overboard on owning too many lenses. Four lenses, at most, will take care of ninety-nine percent of any photographer's needs; and unless you must be prepared for all emergencies, you may find that two will serve you very well. For a 4x5" view camera, for instance, we normally recommend a 3 1/2-inch wide-angle, a 6-inch and/or 8-inch and a 10-inch telephoto. Most people choose only one of the standard lenses that fits best the majority of their needs. The usefulness of wide-angle and telephoto lenses depends entirely on your own picture-making interests.

Regardless of the lens-types you decide upon, take care not to shackle a view camera with lenses of low coverage. For the smaller the negative area a lens will cover sharply, the more restricted you are in using the front and back adjustments. Remember that whenever the front adjustments or sliding action of the back are brought into play, the center of the film is no longer on the optical axis of the lens; thus the picture is made in the outer portions of the image circle formed by the lens,



where quality and brilliance begin to fall off.

With all its advantages, the view camera does have some drawbacks. It must be used on a tripod, which limits its mobility somewhat. It cannot be readily concealed for "candid" work. It cannot be set-up and operated as quickly as a press type or miniature to catch unexpected shots. And its large film size costs considerably more per shot than a roll-film camera. The view camera makes no attempt to compete with its little cousins where any of the above factors are important. Otherwise, it will do anything other cameras will, as well as some tricks that cannot be done with any rigid-type equipment. Those who learn to use view cameras call them the most versatile camera built.

## Amateur Report

Continued from page 15

I am using one of Galey's first cameras, incidentally, to make my enlargements. This is one of the old 5x7 "Century's." It operates, of course, from a horizontal position and in order to hold the paper in the frame I have arranged a system of steel springs which are attached to the wall of my darkroom. The camera, condensing lens and light box are held in align-



A Sunday "Steamer" party halts on the autumn leaves. In '05 motoring parties were popular among owners of the same make of cars. One car is exhausting steam.

ment by guide rails on my workbench.

The boys used a large variety of cameras to make their pictures and at this late date it has been impossible to determine which were used to make the pictures shown here. However, they were all enlarged from film, although some of the negatives in the collection are on the earlier glass plates.



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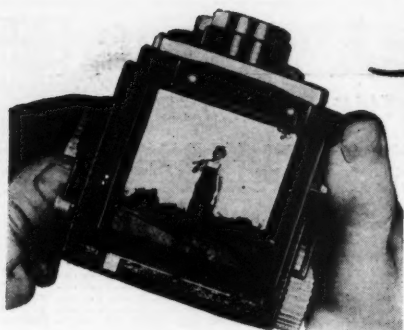
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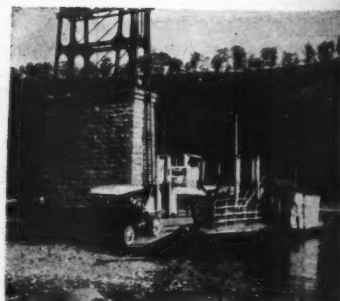
SPEARMAN, TEXAS

In looking further into Thomas Galey's diary, an anecdote brings back the old days with a chuckle. Galey's story is at the expense of Alexander Winton, at that time the largest American builder of gasoline automobiles. "Mr. Packard of Warren, Ohio," writes Galey, "purchased a Winton motor carriage and drove it from the Cleveland factory over rough dirt roads to his home in Warren. Mr. Packard had mechanical breakdowns and lots of tire trouble, common occurrences in those early days, but being of a mechanical mind, Mr. Packard was able to keep his car running and even made improvements on it.

"He made the trip back up to Cleveland later and politely told Mr. Winton where he could make refinements and improvements on his car. Perhaps Mr. Winton was not feeling well that day. He said testily: 'If you think you can make a better car than I can, go ahead and do it!'

"Mr. Packard replied in a slow quiet tone, 'I believe I will.'"

Thomas Galey's pictures and diary point up the truth in the old saying that "Today's commonplace is tomorrow's history."



A Packard boarding a ferry to cross a river around the turn of the century. At left is the pillar of a bridge under construction. Thomas M. Galey collection.

row's history." I have never regretted shooting pictures that did not seem especially significant at the time. In fact, given half a chance, I would gladly tote my brother's Premo again for days just for the opportunity to photograph a few scenes of the past that were lost forever because they seemed commonplace at the time. Perhaps the best advice I can give the amateur who hesitates to photograph a person or event because he doubts its importance is to "Shoot now—decide about the importance 40 years from now!"

ALBERT MECHAM

## Speedlight or Stroboscopic

Continued from page 68

much less portable unit. Lamps for stroboscopic units are specially designed, for ordinary speed lamps subjected to rapid flashing would quickly break down and replacement costs would become prohibitive. In spite of the thousands of times a speedlight bulb can be flashed with a recharging interval between flashes, it has a life of only 3 to 4 full seconds if ionized continuously. Stroboscopic flashing amounts to steady ionizing so that special lamps have to be designed to take it and even then the life of the lamp is short compared to ordinary speedlight lamps.

Every now and then someone asks: "How much is speedlight used in comparison with stroboscopic techniques in photography?" Obviously much more speedlight than stroboscopic work is done because of the limited amount of stroboscopic equipment available, the men to operate it, and the cost involved. At the present time a true stroboscopic unit capable of producing enough light for photography is beyond the reach of the average amateur photographer. Most of the stroboscopic speedlight apparatus now in use has been designed and built by Prof. H. E. Edgerton and K. J. Gerneshausen of the Electrical Department of the Massachusetts Institute of Technology. Gjon Mili designed and built his own unit in collaboration with Prof. Edgerton. Fred Bartholomew who does a great deal of commercial work in this field also built his own unit. The stroboscopic unit that I designed and built required about three years of experimental work to perfect the design, and two months to build. Materials alone cost about \$5,000. Outside of a few technical laboratories, not many stroboscopic units are in actual use. All the above mentioned photographers had a background of electrical experience in addition to their photographic work.

"How," I have been asked, "can speedlight units be set up to obtain stroboscopic effects?" One method is to have a number of speedlight units that can be triggered to fire in succession, either singly or in pairs, by a switching arrangement. This of course would entail buying quite a number of units depending upon how many individual exposures you would need.

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and stroboscopic effects can you tell by looking at a picture which type of equipment was employed?"

Not always. My photo of the "Three Graces" for instance, could have been photographed with speedlight units so as to attain the same visual effect that resulted from stroboscopic lighting. In other instances, the color of the background may be a clue as to how a picture was made. Not long ago I was assigned to make a stroboscopic picture of a hand and hammer driving a nail for an advertisement. In the finished picture the change in viewpoint and perspective in the action of the hammer was clearly defined in multiple images as they moved downward. By coincidence a very similar ad appeared in a different magazine about the same time. The hand and hammer in this picture looked quite stroboscopic even though the images showed no change in viewpoint or perspective. But the final clue was the white background. It proved that the hand and hammer had been photographed against a white background in a single exposure, then multiple printed several times in an arc about a pivotal point. Had the picture been made by stroboscopic exposures, the background would have been black. The same technique, in other words, would have been employed in obtaining multiple images with stroboscopic light as you would use in making multiple exposures of a subject against a black background with any other light.

Technically, then, it is possible to produce the same emotional effect in certain kinds of pictures with either speedlight or stroboscopic units. As a rule, these are pictures in which a limited number of images are required. If the emotional effect of a picture, however, hinges upon an infinite number of images—as in recording fifty or more distinct images of a swinging baseball bat—stroboscopic flash is the only solution. The reason is self-evident; it would be very costly if not physically impossible to clump enough speedlight units close enough together to capture the poetry of motion without drawing attention to the multiple light sources.

**Editor's Note:** Author Brown's views on the difference between speedlight and stroboscopic units are shared by many manufacturers and photographers, but a number of authorities, on the other hand, disagree with him. Ed Farber of Strobe Research, for

one, feels issue are able you t sions we present his he:

"Mr. Brown deal of electronic while he is cuss photo background Yet I find defending stubborn al

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one, feels that the semantics of the issue are unimportant. To help enable you to draw your own conclusions we have asked Mr. Farber to present his views on the subject. Says he:

"Mr. Brown's article reflects a good deal of knowledge of all phases of electronic flash photography, but while he is eminently qualified to discuss photography, he is lacking of background in semantics. So am I. Yet I find myself in the position of defending my views because I am as stubborn about it as he.

"Stroboscopic photography has come to mean photography accomplished by a short intense flash of light. It may be *single flash* or *repetitive flash* photography. In either case, most everyone knows that its action-stopping is accomplished by the short duration of the light source illuminating the scene.

"*Stroboscope* does come from the Greek "strobos" meaning "whirling" and from the word "skopeio" meaning "to view." Thus a stroboscope is a device to enable us to view a whirling. This should satisfy those who feel that what a word means should have some connection with its original

roots. It would seem that *any* electronic flash unit should satisfy this definition and make a permanent record besides.

"It seems a waste of energy to concern ourselves with splitting hairs on electronics when we use the word "orthochromatic" every day, fully aware that such films are not sensitive to light of all colors. We ride in an "auto" which according to this line of reasoning is a meaningless contraction since we should ride in a "mobile". We put our negatives in "hypo" which is not hypo but a combination of elements called a fixing bath. But no one has any trouble understanding what we mean when we say ortho film, riding in an auto, or putting the film in hypo.

"Notwithstanding the protests of the few, most of us will continue to regard electronic flash pictures as stroboscopic photography whether they be single flash or repetitive flash, and whether these flashes are recorded on single negatives, spread out along a movie film, superimposed on one film, or spread out on one film will make no difference.

"The word "Strob" will continue to be the registered trademark of

Strobo Research for electronic flash units of its manufacture. We are sure everyone will know what it means." End quote.

### The Answers to: Can You Tell Which Is Which?

(See page 66)

Fig. 1, "Kid's Band" by Reg Kenny of the *Milwaukee Journal* was made with an electronic speedlight unit.

Fig. 2 is a "straight photograph of a ballet dancer by Derald Martin. By "straight" in this case we mean only that no electronic flash was used for illumination. The dancer was lighted by spotlights and simply moved across the floor while Martin kept his camera shutter open on "Time."

Fig. 3 is a stroboscopic photo made by author James Brown for a Bendix Home Appliance magazine advertisement. Each image was registered by a separate flick of illumination from the stroboscopic unit.

Fig. 4 is a "straight" photo by Bob Kohl, made by multiple exposure, i. e. registering six separate images on the same negative by moving the camera slightly between exposures.

Fig. 5 is a speedlight photograph by *Milwaukee Journal* photographer Howard Sochurek.

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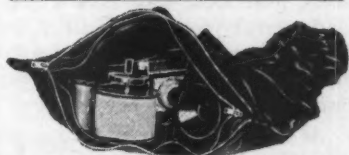
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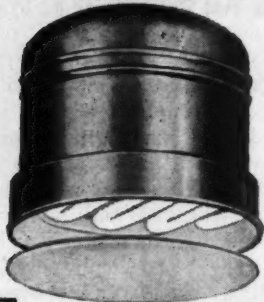
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## Change of Pace

Continued from page 76

Roy E. Stryker, recorded a vast crisis in American economic and social life. These pictures were made possible because Stryker, a former teacher of economics at Columbia University, could make his men and women photographers comprehend the effects of the economic phenomena then sweeping the country.

Photographers are always talking about the weather, and they can do something about it by adjusting picture taking technique to a variety of weather conditions.

At one time I had to make a color fashion photograph in downtown Manhattan. My employer wanted a warm color effect, and therefore sunlight would have been the most desirable kind of illumination. On the day all arrangements were ready for making this shot the sky was completely overcast. By using a color correction filter, I produced a picture with a degree of warmth not as good as I would have had with sunshine, but good enough to print.

I used daylight type Ektachrome which is balanced for bright sunlight. When this film is used in the shade or under an overcast sky, it produces a cold blue effect. The use of a CC15 filter without any change in exposure will produce a warmer transparency which more closely approaches the original scene. This technique may be used deliberately to obtain a color photograph that is illuminated softly and does not have the harsh black shadows that sometimes occur with sunlight.

In covering a news event for magazines, you must take greater pains and exercise greater imagination than the newspaper photographer, because for a magazine, pictures must have something more than news value.

At one of the conferences that took place between Roosevelt and Churchill during the war, at Quebec, I witnessed good thinking at work. About two dozen cameramen of all nationalities had lined up to make pictures of the war leaders and their advisors. While the group posed formally, the photographers clicked away. Suddenly, a huge British plane approached the St. Lawrence River for a landing. It was bringing Anthony Eden to the conference from London. Everyone rushed to watch it land,

leaving Roosevelt sitting alone, but after a moment Churchill returned to chat with Roosevelt while the rest of group still watched the landing operation. Here were opportunities for dramatic pictures, but only a few of the cameramen were aware of it. These were the men who could produce news pictures that meant more than just a record of the scene.

Thus far, it seems we have the necessity of having a broad education and wide experience for being successful in magazine photography. I do not mean that all of this has to be acquired formally and deliberately. Some magazine photographers are men of little formal education; their knowledge and mature wisdom, however, is greater than that of many with advanced university degrees.

## You Have To React Emotionally

The successful production of a photographic idea depends first on your development of an emotional reaction to your subject matter. When that feeling is reproduced in pictures in such a way that the person looking at the picture gets the same emotional feeling, you've done your job well. This applies regardless of whether you are working on a fashion, food, sports or theatrical story.

Photographers are always covering fires. Flames, fire apparatus, smoke, burning buildings often produce exciting pictures, but they have been done before. A better picture of a fire was one in which the cameraman showed, instead of burning buildings, the anxiety and dismay in the faces of the spectators. Another showed only three firemen, a hose, the effects of fatigue on their faces. These are not the conventional pictures most photographers take under the same circumstances. They result from understanding how events affect the people involved in them and associating yourself with that emotion.

To explain this further, in a lighter vein—a group of photographers recently decided to exercise their interpretive ability in a competitive manner by each making a photograph of one subject. They chose the banana. Most of them produced table-top studies, designs and arrangements, exercises in light and shadow—the trite, commonplace pictures often seen in salons. But, one photographer didn't show a banana at all. He photographed a woman shopper, sprawled

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on the sidewalk, frustrated, with her groceries scattered around her.

On a trip to England not long after the end of the war, I was out to get a picture for a story about economic and social difficulties in that battered country. My reaction to the situation there was that the ones suffering the most in England were children born during the war, never knowing a life of security and peace.

With the development of this feeling—sympathy for the little people whose lifetime had known nothing of freshness and gaiety, freedom of the spirit and from want—I set out to photograph English boys and girls living in the ruins of a bomb-smashed building. I tried to convey the idea that English children had never known the comparatively pleasant society in their own country of ten years ago.

Any effect achieved in this picture was due to the fact that I was stirred emotionally. If the reader, catching the sympathetic approach in the photography was similarly affected, the picture was an editorial success.

The photographer in all his work exercises a degree of personal selec-

tion. It is your privilege to photograph those things you consider good subjects, and to edit out what doesn't seem to be appropriate material. In this sense you edit your picture story as you produce it.

During the great drought of 1936, I was travelling through the plains area of the midwest and was affected very much by the hardships suffered by livestock as a result of lack of rain. I wanted to make pictures that would show people in other parts of the country what drought could do to the land. In the badlands of South Dakota, I found the bleached white skull of a steer lying on the cracked dried earth. Immediately this struck me as the symbol of drought.

This symbol of what has happened to the land in some parts of our country seemed to capture the imagination of editors throughout the land and was widely reproduced at that time. The photograph was used to say editorially: "Our land needs managed conservation." It was also widely denounced as a fake and resulted in an investigation of the so-called propaganda photography of the government.

The problem of interpreting stories into photographs requires not only recognition of what makes a good picture but sometimes extreme patience in waiting for the right instance to shoot.

An example of this is a photograph from part of a series on gambling made at Las Vegas, Nevada. My own concept of telling a story in pictures, is to try to make the reader understand the general idea of the story, just as though there were no text or caption. The editorial approach in this case was that gambling is thrilling, but that the odds are always against the player. A successful picture depended on recording a significant detail that would give this impression. After watching the play for some time, I took a picture of a young woman gripped by excitement as she played roulette. Her intense concentration and unusual expression had just the right impact to illustrate a story on gambling.

In production of a story involving many continued meetings with an individual or with groups, it is well to make these people feel that you are sparing them every possible incon-

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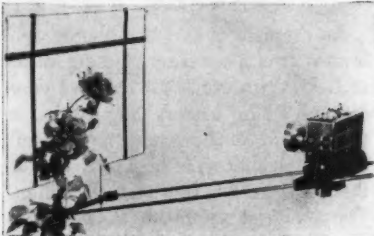


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venience. Don't make demands at the start. Gradually as you become better acquainted with your subjects progress is easier, people begin to do more readily what you want them to do.

Sometimes you will find it desirable to work very quickly to prevent your subject from getting bored or perhaps irritated at being prevented from accomplishing his regular work. In any case, the tactful approach is the only one. As soon as the subject discovers that you are sensitive to the needs and habits of people and their right to some privacy, he will make it easier for you to complete your job.

In a long story I did involving a New York debutante, I had to show activities such as: daily luncheons, preparations for a dinner-dance, dates at a night club, witnessing the opera. Both the girl and her protective mother were rather worried about the manner in which these shots might be handled editorially. At first they were extremely formal with me in posing. Yet, as the story progressed over a period of weeks, the debutante appeared to have more confidence in my work, and began more readily to agree to have herself photographed in poses that became more and more informal. At a party which climaxed her social activities, I easily convinced the girl that good photographs of her in action on the dance floor were possible, although earlier in the series she would have expressed a fear of being caught off guard. With the aid of a whimsical young man who agreed to whirl her in front of the camera a couple of times I obtained a pretty good degree of informality without losing any of the youthful dignity the young lady cherished.

At the conclusion everyone concerned seemed well pleased. In fact the girl's mother said to me, "Ginny was charm herself to the columnists, and to the little people who take pictures."

The photographer usually has to plan well ahead of time to illustrate a story to best advantage.

At one time Harold Stassen attended a ceremony at which he was to become an honorary member of the Lilly family. Stassen was completely unaware that he was going to be crowned with an Indian head-dress. I knew about this in advance, and planted myself to best advantage. The result was a shot of Stassen's gen-

uine and embarrassed grin, a picture infinitely better than any posed photograph could have been.

Our job is to catch the most significant pose of a subject; to catch the arrested moment expressing best of all the basic story idea.

## Tracer Lights

*Continued from page 47*

of a tennis serve. He says, "A small flash-light bulb, in a socket, is taped to the end of the racket with the connecting wires from this socket, also taped to and running down the arm of the player (see photograph above). These wires are connected to a small battery of the correct voltage for the lamp used. This is located in some convenient pocket of the model, so as not to interfere with movements of the arm or body. Now with lamp lit and the room darkened, with the shutter kept open during the phase of action wanted, an exposure is made, using a rather small diaphragm stop. The time of this exposure is determined by the length of time needed, for the completion of the particular phase of motion wanted.

"After completing this exposure, an overlapping shot or double exposure (as in the photograph, right, above) may be made of the figure in the ordinary way, to better explain the movements of this line. This can be made by means of regular lighting with floods, flash-bulbs or speed-lights, as one wishes. The lighting should be kept off the dark background as much as possible, so that the white tracer lines will not be lost against a lighter background. These lights should be set up beforehand with the correct arrangement, then switched off, until the end of the tracer-light movement. This is the way I prefer to do it, although the single shot can be made before the tracer light exposure. I would also recommend that the background be rather dark gray or black so that the tracer lines will show up to better advantage in the final print."

A scientific use for tracer lights has been worked out by the John B. Pierce Foundation of New York City. By attaching lights to the moving parts of a person's body for such actions as cleaning the teeth, dressing or undressing, research men have been able to analyze the space required to perform a specific task. Translating these areas into dimen-

sions will the amount allowed in day activities course is t in apartment lower built

Multiple used for so with picture One such Co. done b Needham, a pretty g in househo One of the below. Jam



series of p technique L article for light." The paths durin a hat and the client's windows in of each ac spotlights ously set make the picture.

Some tra can try for this excitin headlights signs, carol parks and trade before for some might wan in a way page 47. an electric imagination cover pict having use

sions will give an accurate study of the amount of space that should be allowed in a house for the day-to-day activities. The final objective of course is to reduce the waste space in apartments and houses and thereby lower building costs.

Multiple tracer lights have been used for some eye catching and proof-with pictures advertising photographs. One such series for the Eagle-Picher Co. done by their advertising agency, Needham, Louis and Brorby, has used a pretty girl and caught her action in household tasks with tracer lights. One of these advertisements is shown below. James Brown, who made the



series of photographs used the same technique he described earlier in this article for "wiring the model for light." The tracer lights made their paths during the action of putting on a hat and then for placing one of the client's new style metal storm windows in place. At the completion of each action the studio floods and spotlights (which had been previously set up) were turned on to make the identification part of the picture.

Some tracer light pictures that you can try for your own experiments in this exciting field are: the moving headlights of cars in traffic, electric signs, carousels and ferris wheels at parks and fairs and a torchlight parade before a football game. Then for some sports or dance shots you might want to wire a model for light in a way similar to that shown on page 47. This is not too difficult an electric job. Some ingenuity and imagination will enable you to discover pictures or rare beauty and having useful possibilities.



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## Does It Pay to Turn Pro?

Continued from page 57

agreeably spread out over landscaped grounds. But a picture titled "Morning Mist" is sure to be criticized by someone as a "retreat from life," which it is just as any photograph of six-a-day grinder doing the bumps in front of the bald-headed row will be called "not pictorial." Neither criticism is final. I do think wide experience in subject matter helps a photographer find himself.

Word got back to Miami University at Oxford, Ohio, where I taught design, about my salon exhibitions, and that I was interested in picture taking. I bought a movie camera and, after shooting some campus activities, I was offered the part-time job of taking pictures of the football games. These playbacks were used by Coach Sid Gilman to point up errors and good moves. On the whole, I was a pretty unpopular guy Tuesday nights during these projections.

One day I wandered into a Cincinnati publishing firm at the time they were looking for an editor. This was 1944 and during the four years I was with this house editing *Minicam*, my interest widened and grew in photography.

It was the several editorial trips I took to the West Coast that first began to interest me in having my own photographic studio. The people were so wonderful and they seemed so happy in their work—even though they were working hard and it was no game, that I thought surely here must be the ideal way to be in photography. Among the West Coast people who influenced this idea were Earl Theisen, Fred Archer and K. V. Arntzen.

### "Stepping Down"

Counting up the hours I felt had been lost from my life driving 72 miles back and forth from Oxford to Cincinnati every day, I decided to make the break, to see if I could make a go of owning my own studio in a small town. I had heard rumors that the owner of an Oxford studio was ready to sell his business and when they were confirmed, I decided to make the plunge. When I approached Herb Hosack, the owner, about buying his business, he was surprised that the editor of a national magazine would be willing to "step down" to own a small studio. I thought of it as a big personal advance. You have to love photography to want to take on a job where

you must work twice as hard as you did before, but I felt that the freedom, creative satisfaction and the chance to do a good job would be worth it.

The business, as it was when Mr. Hosack sold it, grossed about \$6,000 a year. He ran it really as just a side line to a gift and record shop, and felt if I put my full time in the studio, it should gross \$8,000 to \$10,000 a year which he thought would be a profit. I now estimate it will require a gross of \$15,000 a year for me to net \$6,000 a year, and a gross of \$25,000 a year to earn four figures clear.

### What's A Business Worth?

How do you estimate the value of a small business when you buy it? It was all new to me. Mr. Hosack took an inventory of what he had, both in stock and equipment; the amount of purchase price resulted from this. Considering the purchase price, and the amount of money I put into fixing it up, the business cost me \$3,500. The real expense was in buying more equipment and fixing it up. The studio building is owned by the village of Oxford and they spent \$1,700 doing some repairing, painting, etc., and consequently raised the rental from \$25.00 to \$40.00 a month. That seemed reasonable. But, replacement was a major item. Every time I reached up and touched something, a boom light, for example, something would come off in my hand. Switches didn't work, plugs needed fixing, much equipment was shot. There were quantities of out-dated film and paper and it was heartbreaking to have to discard boxes of material on which the useful time limit had expired.

With all the work in organizing, fixing, painting, ordering, and paying, there was the pleasureable thought in the back of my mind, "I can leave home and be at work in five minutes. I like this town and I like to work with college age kids. If I make a go of this, I'll be the happiest man alive, and if I don't, I'll have no one but myself to blame."

The studio was about 18' x 60' divided into nine rooms including cubby holes. I employed a receptionist who worked twenty-two hours a week after her classes; and a dark room assistant who helped develop, print, retouch and shoot. He puts in about twenty hours a week. A third man from the University who liked and knew photography also helped out. Total ex-

penses for the three per month was about \$175.00. Bills payable monthly averaged about \$225.00 a month.

These "bills payable" surprised me. There were many things I hadn't even thought of about a studio.

I had hopes and still hope that I will make a reasonably good living—saving some money toward paying for my children's college education and maybe sending them to camp in the summer. The doubt is still there that I have chosen the right town, that I can find the time to let the people who want my photographs know that I am here. And yes, the fear is there too, that I will fail, that I will go absolutely, completely broke in the face of all my friends in this little town. People will say, "What's the matter with Hoxie, can't he make a go of anything? Is photography really a tough game or is it just Hoxie?"

I know, though, that whatever happens, I have a deep well of confidence in my wife. She has been with me on everything I ever tried, and whatever I have done has been right with her.

Several people have managed to succeed in college towns like this. Axel Bahnsen at Yellow Springs, Ohio, and Roy Hirschburg at Richmond, Indiana.

Bahnsen started out 20 years ago and grossed \$3,000 his first year and was crazy happy over it. Today he tells me: "I'm fighting to keep from being an executive. We employ nine people and gross about \$70,000 and will probably top a hundred one of these days. We do a lot of color processing and dye transfer work in addition to our portrait studio."

Knowledge of what people like Axel have done and the daily sight of my successful competitor across the street buoy me up in the belief that I will make good.

After about half a year, summer came around, and I put a sign up on the door "closed for three weeks" and went off to the Winona School of Photography at Winona Lake, Indiana. There are lots of bottle necks in running a studio and I wanted to learn how to operate my studio efficiently. You need a constant flow of work into each department. My bottle neck was retouching, because it took so much personal time. I was putting two evenings a week into retouching. For example, one girl saw 8 proofs, but didn't like any of them. I was unhappy until she said: "Oh, the face will do, but I don't like the blouse. Couldn't you take it off or something?"

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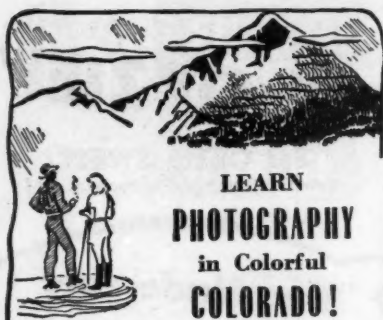
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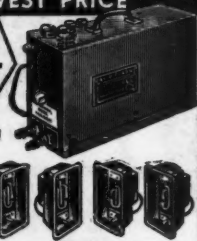
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At Winona I learned how to use machine retouching, and I'll probably order a retoucher made by Adams in Denver, Colorado, for \$250.00. You place your negative on a ground glass, and the negative vibrates at the rate of 160 strokes a second. You cannot see it vibrate because the movement is too fast and too slight, but by touching it you can feel the tremble. This gives a diffused line to your retouching pencil and saves a good 50% of the time. In my case, it will pay for itself in 3 months, because I am sending some of my retouching work out. The school charges \$100 tuition for three weeks, plus, of course, room and board. There were 60 in my class and the teachers were noted professional photographers and a number of Eastman research men. At Winona we were all taught the importance of trotting out the manufacturers' data books and following their directions explicitly. If you do that, somewhere along the line you're bound to find something which will improve your work.

#### Smalltown Commercial Jobs

What kind of pictures does a small town photographer take? Here are a few of the things I was asked to do this year:

First, I got a request for a propaganda picture, one of those things that editors call "Ain't it a shame" pictures. The principal of the public school wanted to show the townspeople what sad conditions existed in the public schools of Oxford. The principal pointed out the bad conditions; then it was my problem to dramatize them. There were several hundred students but only a few toilets. We lined a dozen kids up, the way they actually are lined up at times in the wash room, and made a shot. Also, there is no place in the school for a sick or injured child to rest, save a cubby hole that is part store room, and has one Army cot.

Seven of these pictures were published in the local weekly paper and this plus other publicity caused a bond issue for improving the school to be passed. Incidentally, I haven't been paid yet for the pictures but, in a small town, publicity work like this shows that you are civic minded and gets people to know you.

One day seven girls came down from Hammond, Indiana, to visit our Western College for Women. The edi-

tor of the Hammond paper wanted to know what the girls were doing and Western College paid me to take some publicity shots of them.

A company that makes seats for gymnasiums installed some new seats in the Miami University gym and wanted some before and after shots.

Even after only eleven months of work, I have learned to accept almost any kind of an assignment as routine. A man called up and asked me to take a photograph of a corpse. The relatives were unable to attend the funeral and wanted this picture as a keepsake. This is not an infrequent custom in some parts of Kentucky and Tennessee, but I would rather take them while they are alive, warm and smiling. My standard fee now for photographing corpses is \$10.00. I used flash because the photo-flood might melt the wax.

One of the sororities at Miami University decided to get up a scrapbook of portraits of all their members in order to show the rushees what a nice looking group of girls were inviting them to join.

From nine in the morning to midnight with a couple of hours for meals, six days a week, is harder work than I ever did on a salaried job. This schedule wasn't because I had so much business, but because I did so much publicity to get people acquainted with me. When you are a photographer in a small town, there is no such thing as your own sweet time. You are at the beck and call of anyone in your community any day.

I found that one of the best ways to attract the college students was to attend their dances and make informal shots of couples sitting one out in the gym, or dancing on the floor, or laughing and talking around a punch bowl. I supply two 8x10's of shots like these for \$1.50 and this pays for the film and paper. Some of the students order extra copies, or larger prints, and, if they find these "candid" pleasant, they tell their friends and the bell on my door will ring a dozen times that week to announce new customers.

As insurance against film and time expense, I charge a \$5.00 sitting fee which pays for twelve proofs. Prints are \$6.00 apiece for 8"x10"'s, \$3.50 for 5"x7"'s and \$2.00 for 4"x5"'s. At the present I have one consistent commercial job that is a good psychological and financial support. I am

doing all the College for in this town their Annual

Although turing busin studio, I'm as I am students in see that p mean more and a strin these partic vide a med

Is Your Le Continued fr

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doing all the publicity for Western College for Women (the other college in this town). This fall I am to do their Annual; a \$1500.00 job.

Although I have a small manufacturing business in this photographic studio, I'm not interested in volume as I am in quality. Some of the students in the town are beginning to see that portrait photography can mean more than a sweater, a skirt, and a string of pearls, and it is for these particularly that I hope to provide a medium.

## Is Your Lens Sharp?

Continued from page 40

For illumination, use several 75- or 100-watt lamps rather than photo-floods. Exposures would be shorter with the floods but a greater number of smaller lamps will give a better distribution of light over the test object. Since the test object and the camera are motionless, exposure-times are of no real importance. Mount the lamps in reflectors to keep stray light out of the lens. The reflectors need not be fancy—even cardboard ones will do the job nicely. Do not use polished metal reflectors. They can be the source of objectionable hot spots. The evenness of illumination on the test object can be checked with an incident-type exposure meter or even with one of the more common reflection-type meters. Lacking a meter, adjust the illumination by eye—it will be close enough unless you want to check the lens itself for evenness of illumination.

## Making Test Negatives

To properly evaluate the results of your test negatives, you will need a good magnifier. If you have access to a lower power microscope of about 40 power, use it. If not, you can get along with a jeweler's loupe or student's magnifier providing it is of at least 10 power. There are many types of pocket magnifiers on the market making use of Wollaston-type lenses. They have a good field and are available with sufficient power. You will also need the glass for critical focusing.

For making test negatives, there is no question but that plates are best if for no other reason than that they are flat. They are somewhat more expensive than film but since you won't need many, get them if your test camera holders will accept them.

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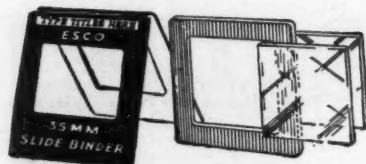


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## What To Look For

So far, we have been concerned with the equipment for testing lenses. Now let us consider what we are going to test for, how we are going to test for it, what it will look like if we find it, and how we can minimize its effect on our negatives if we find it in our lens. Another word of warning—if your lens is a reasonably good one, it is quite possible that you will not be able to find any aberrations in it. Remember that you are working with home-assembled equipment and you can hardly expect to find things that the maker of your lens has spent thousands of man-hours and hundreds of dollars minimizing and correcting. You can be sure however, that if you can't find the aberrations, they won't bother you.

*Spherical aberration* is present to a certain degree in practically every lens of every type. It cannot be completely eliminated until some efficient method can be developed to produce a parabolic surface of optical quality on glass. If rays of light from a distant point of the lens axis are traced through the lens at different distances out from the center of the lens, it can be found that the light rays will not be reimaged at a single point. Instead of a point image there is a blur. This is shown diagrammatically in Figure 1, and its effect on the image of a point source is shown in Figure 2. In this illustration the dark central spot is the image of a distant point source on the axis and the gray halo is the effect produced by the presence of the aberration.

There is not much point in trying to photograph this aberration because it is so easy to observe visually. To demonstrate its presence, set up a point source on the lens axis. A good point source can be made by cutting a clean round hole in a box, putting a lamp bulb behind the hole, and covering the box so that no light except that coming from the hole is seen. Open the lens being tested to its largest opening and focus as sharply as possible on the light. You will notice the bright central spot and the darker "surround" or halo. Now stop the lens down one stop. The brightness of the halo will fall off and it will appear to grow

smaller. Stopping down about two stops from wide open usually reduces the aberration to the point where it is no longer visible. Thus, any lens should give somewhat better definition if it is stopped down a bit. Since outdoor pictures are seldom taken with the lens wide open, spherical aberration is hardly ever noticeable.

When a lens has considerable *residual spherical aberration*, negatives made with the lens (especially when very contrasty subjects are being photographed) may have the appearance of an over-all fog. This is due to the emerging of the halos around the highlights. As stated before, stopping down about two stops will reduce spherical aberration to the point that it is unnoticeable.

*Coma* is an aberration which does not exist on the axis of a lens. It is one of the so-called oblique aberrations. It is caused by a difference in magnification in the image when oblique rays pass through different zones or concentric areas on the lens. It shows up when a point source of light is photographed off the axis. The image of the point source becomes a bright central spot with a little tail on it (hence comet-like or coma). In practice, coma is not a serious aberration. In photographic lenses although it does exist, it is usually so well corrected and so masked by other aberrations such as spherical, that it is hardly ever isolated so as to be visible alone. Figure 3 shows the mechanics of the formation of a comatic image.

*Distortion* was one of the first aberrations noticed by the early lens designers and even in the 1860's, lenses were designed which were substantially free from it. Images are distorted because the magnification is not constant over the whole field of the lens. There are two types of distortion and both are very easy to recognize. One is called barrel distortion and the other called pincushion distortion. Figure 4 illustrates the appropriateness of the names. To check for distortion, hang a black string in front of a light background. It should be so placed that its image falls near the edge of the field of the lens. If the image of the string is straight, there is no distortion in the lens. If the image is convex to the center, there is *pincushion* distortion. If the image is concave to the center, there is *barrel* distortion.

Distortion, if present in a lens, must be tolerated because stopping the lens down has no effect on the aberration.

However, a slight amount of distortion is not serious except in architectural photography where building outlines must be straight. Lenses which are used for aerial mapping and charting, or process and copying lenses must be completely free from distortion. Likewise when measurements are to be made on a negative, it must have been made with a distortion-free lens.

*Astigmatism* does not occur on the axis of a well made lens in which the elements are properly centered, but it may increase rapidly in the oblique rays passing through the lens. The effect of the aberration is due to a difference in the planes of focus of radial lines and tangential lines. The mechanics of an astigmatic image are rather hard to visualize, but the method of testing for it are relatively simple. The test object targets should include a series of concentric circles with several diameters drawn across them. (Figure 5) If the lens you are testing suffers from astigmatism, you will not be able to focus sharply on both the circles and the diameters at the same time when the image is near the edge of the field. Most modern lenses are so well corrected for astigmatism that you may not be able to find it. If found at all, it will probably be in an extremely oblique ray and then it could only be found with a high power loupe and on very finely ground glass in the focusing panel of the camera.

### Chromatic Aberrations

We have left the chromatic aberrations until last for two reasons. (1) They are receiving a great deal of attention due to the increasing popularity of color in photography and (2) the testing technique is a little different.

There are two general types of chromatic aberration or "color." One is an actual shifting of the focal point as the wave length of the light shifts. It is properly called *longitudinal* color. In a simple lens, blue light is refracted or bent more than red light. Therefore, in a simple lens, blue light is brought to a focus closer to the lens than is red light. Most compound lenses from the simple doublets up are fairly well corrected for longitudinal chromatic aberration. While they cannot be perfectly corrected, they can be so well corrected by a judicious selection of the glasses used that the effect of any residual longitudinal color is not noticeable. Stopping the lens down does not diminish the aberration, but the depth



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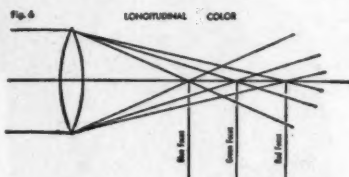
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of focus is increased so that the effect of longitudinal color is eliminated.

The test for longitudinal color must be made with colored targets and on panchromatic film or plates. A very satisfactory color target can be made as follows: In a piece of black, opaque paper, cut three large but sharply defined letters, A, B, and C. Each of

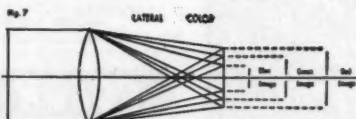


these letters should be backed with a suitable filter. Use a Wratten A (or equivalent) filter for the A, a Wratten B filter for the B, and a Wratten C-5 filter for the C. Place a lamp bulb back of the cut out target and the result is bright red, green, and blue letters on a black background. If your lens has much longitudinal color, you will not be able to focus all three letters sharply at one time without stopping down.

### Color Fringing

Chromatic difference of magnification is a somewhat more serious fault in a lens because it cannot be improved by stopping down. It is the aberration that is responsible for color fringing. The effect is usually most pronounced near the edges of the field. Its visible effect is due to the fact that the magnification or image size varies with the wave length of the light forming the image. The human eye has considerable of the aberration and to prove it, look at a brightly transilluminated purple filter. You will see a blue spot surrounded by a bright red halo.

A photographic test for lateral color is best made with a test object consisting of a series of white threads stretched against a black background. This target is then photographed



through a filter (either a Kodak Wratten A, B, or C-5) and the film or preferably plate, developed, fixed, washed, and dried. Then a contact positive is made on another plate from this negative. Next the target is photographed through the other two filters and the negatives developed,

fixed, washed, and dried. Then the two filter negatives are registered one at a time with the filter positive. If register can be achieved, then there is a negligible amount of lateral color in the lens.

Earlier in this article we said that if a picture was satisfactory, the lens must be satisfactory. In recent years, the resolving power of a lens has been advocated by some as a sort of yard-stick by which to evaluate the over-all performance of a lens. This method has those who swear by it and those who swear at it. Without siding one way or another, it might be interesting to consider one simple and practical method of measuring resolving power. It is described in the Circular of the National Bureau of Standards C428. The title is "A Test of Lens Resolution for the Photographer" and it is by Irvine C. Gardener. Copies of the circular can be obtained from the Superintendent of Documents, Washington, D. C., at 40 cents per copy.

In the testing, a series of test targets are photographed at a magnification of 1/25X (a lens-to-target distance of 26 focal lengths). The negative produced is then examined with a 30- to 40-power microscope and the resolution of the lens in lines per millimeter is determined. Anyone interested in lens-testing by this method will find the circular a worthwhile investment. The circular includes a number of test targets for the measuring or resolving power. Extra resolving power targets are available for those who might want to add resolving power measurements to the tests outlined in this article. Sets of 48 test targets may be obtained from the Superintendent of Documents at \$1.25 per set.

In this necessarily brief article, we have tried to outline a few simple tests by means of which the photographer can evaluate his lenses. The principles are not new. For those who want to do further lens testing on a more ambitious scale or those who want to read up on the subject, the following references are suggested.

Handbook of Photography, Edited by Henney and Dudley (Whittlesey House, \$8.50); Chapters II and III by R. Kingslake.

The Principles of Optics; Hardy and Perrin;

Chapters I through VII  
Chapters XV through XIX  
Chapter XVI

Both of the above references have bibliographies of their own.

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## Photo Markets

Continued from page 18

### Contests

**Alkon News Pix**, 103 E. 125th Street, New York 35, N. Y., announces its Monthly Picture Contest for press type camera users. Any picture made with an ALKON cut film holder may be entered and any number of entries may be submitted each month. Send glossy or matte prints not larger than 8 x 10. **DO NOT SEND NEGATIVES.** Model releases should not be sent with entries but must be available on demand. All prize-winning entries become the property of Alkon Photo Products, Inc. for any use as deemed proper. The first prize winner will be notified at once and requested to send a picture of himself. This will be used on a printed 11 x 17 window poster featuring the winning photograph, and a short biographical sketch of the winner which will be shown each month at photographic stores throughout the country. Cash prizes are \$100 first prize, \$50 second prize and \$25 third prize. Each contest runs a month and closes on the last day of the month—September 30th, October 31st, etc. Address your entry or query for further information to Contest Headquarters, **Alkon News Pix**, 103 East 125th Street, New York 35, N. Y.

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Camera Craft \$4.00

When Dr. Harold Edgerton began experimenting with electronic flash at M.I.T. in the early 30's, he was looking for a better way of making the high-speed action photographs that had intrigued photographers for years. This he found in gas-filled flashtubes, whose widespread use today is one of the phenomena of modern photography. Unlike the methodical development of electronic flash equipment, writing on the subject has been sporadic and fragmentary.

In Howard Luray's new book, photographers will find a lot of elusive information on electronic flash concentrated in one digestible pill. And, as Dr. Edgerton puts it in his foreword to "Strobe"—the Lively Light, the book "will help fill a bothersome gap that has separated the photographer from the electrical engineer."

This is a good place to take note of the quotation marks Luray puts about "strobe" in his title. While he does include a brief discussion of stroboscopic lighting in Chapter I, the rest of the book concerns the popular speedlight or "strobe" equipment that is finding its place in nearly every type of photography. (A clear-cut article on the difference between stroboscopic and

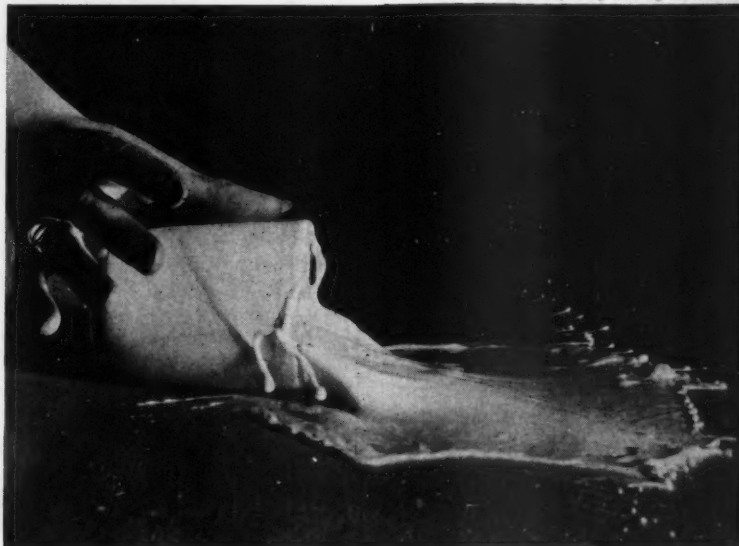


Photo by Frank Scherchel with an SR strobe

speedlight equipment begins on page 64 of this issue—Ed.) Written for photographers, by a photographer, the book explains electronic equipment in simple, concise language. There are nine easy-to-understand chapters telling what makes speedlight tick, how to choose a speedlight, and what it will do in the way of picture-making.

Photographically (but not electrically) speaking, the book is mostly technical and its emphasis is on equipment and materials. You will find instructions for adapting all sorts of specific equipment to speedlight use: shutters, synchronizers, Focuspots, auxiliary lights, slave units. Also you will find excellent advice on using the color and black-and-white films of all well-known manufacturers: exposure, processing, and what filters to use. Actual picture-making talk, however, seems a little short in the book—about

Electroflash photo by Al Aumuller



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a chapter and a half. The best of this is about speedlight's forte, action photography, and there is, of course, data for making the milk splattering, bottle shattering pictures for which speedlight is famous. With new applications for the light being discovered every day, the author perhaps could have done more than skim the surface of its potentialities. But in photography, technique must come first to be eventually taken for granted, and "Strobe"—the *Lively Light* is recommended as interesting, authoritative reading for users, as well as prospective users of speedlight.

### Graphic Graflex Photography

Edited by Willard D. Morgan and Henry M. Lester  
Morgan and Lester \$4.50

One of the minor problems that have always plagued photographers is the fellow who looks at the photographs. He rarely is able to tell what kind of camera or what kind of film a picture is taken with. And it is disconcerting to the amateur photographer who has

sunk several hundred bucks in a press camera, complete with Focuspots and range finders to discover that some of the best magazine pictures are being taken with 35mm cameras. That brings us to a quotation from the chapter of *Graphic Graflex Photography* on "News and Press Photography." Say Frank Scherschel and Stanley Kalish, "What does it take to make a good newspaper picture? Someone answered, 'A photographer with an eye.'"

The successful photographers find out before too long that the good pictures can be taken with almost any camera, but they end up by sticking with the camera which best fits the usage that they expect to give it. Of the better cameras none have had better acceptance by more classes of photographers than the Graphic. The flattery of imitation has not seemed to dull their popularity; the Graphic goes right along. They are sturdy, expensive, beautifully made and combine most of the features that anyone could ever want. To get thirty-two of the big names in photography to write the chapters of a book on the camera,

these people have to be in love with their subject.

There probably have never been as wide a range of good pictures put together in one book as in the Eighth Edition of *Graphic Graflex Photography*. The information that supports them is well done though not always too well written. There is also some repetition, which is unavoidable. But for \$4.50 you get your money's worth. Not all the subjects will interest a reader. For instance, there is a chapter on "Personnel Identification Photography" which has limited interest, and yet it is a good thing to have this information available and written by an expert in the field. Torkel Korling's chapter on "Children," Henry Lester's "Photographic Darkroom" and Don Mohler and R. E. Worstell's "Illumination" are a few of the chapters that have general interest.

If you don't have a Graphic or Graflex don't be discouraged about this book; you can still discover a lot of basic photographic facts that will be useful. But be careful, you may find yourself with the itch to stop in and look one over.

## Modern PHOTOGRAPHY'S Book Department

All of the books listed here are recommended by the Editors of Modern Photography for their information and entertainment value.

### books of general interest

- 1 **This is Photography** by Thomas H. Miller & Wyatt Brummit.  
Not a primer, but a sound introduction to photography in its many phases.  
260p., profusely illus. \$2.00
- 2 **Film Form** by Sergei Eisenstein.  
12 meaty essays by the famous Russian director on the theory and practice of film making.  
279p., 10 illus. \$4.50

### books on "how-to-do-it"

- 3 **"Strobe"—the Lively Light** by Howard Luray.  
Reviewed this issue.  
128p., 79 diag. and illus. \$4.00
- 4 **Graphic Graflex Photography** ed. by Willard D. Morgan and Henry M. Lester.  
Reviewed this issue.  
8th ed., 456 p., 650 illus. \$4.50
- 5 **Fred Archer on Portraiture** by Fred Archer.  
One of the outstanding books on portraiture technique, with specific instructions on posing, lighting, make-up, and camera work.  
224p., 212 photos, 70 diag. \$5.75
- 6 **Kodachrome and Ektachrome** by Fred Bond.  
The latest edition of this outstanding book on color photography.  
3rd ed., 244p., beautifully illus. \$7.50

- 7 **Westward How** by Fred Bond.  
Maps, schedules, and a pertinent information for a camera tour West.  
324p., 130 illus., many in color. \$6.95
- 8 **All the Photo Tricks** by Edwin Smith.  
A comprehensive guide to photography's special effects: double exposure, montage, distortion, etc.  
3rd ed., 279p., well illus. \$3.00
- 9 **Handbook of Photography** ed. by Keith Henney and Beverly Dudley.  
A mine of advanced technical information on the scientific basis underlying photography and its specialized applications.  
871p., many illus. \$8.50

### books for reference

- 10 **Photo Lab Index** by Henry M. Lester.  
The standard photographic reference book giving concise technical information on every phase of photography and photo materials of all manufacturers. Quarterly supplements available at \$3.00 per year.  
10th ed., 1200p., approx. many charts, in deluxe 6-prong loose-leaf binder \$16.00
- 11 **The Photographic Process** by Julian Mack & Miles Martin.  
A comprehensive, clearly-written textbook on photographic theory and practice.  
575p., thoroughly illus. \$6.00

### Modern PHOTOGRAPHY

#### Book Department

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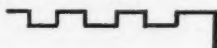
## last word letters to the editor

### Where Is 428?

Sirs:

If succeeding issues of MODERN live up to the first one, it is headed for a big future. I have only one slightly adverse comment to make: The film notching chart in Photo Data is something no amateur or professional should be without. But what about Defender High Speed Pan Type 428? Schenectady George Woodruff

• We're sorry we lacked the 428 notching code at the time we went to press. Here it is!



### Ode To Kibitzers

Sirs:

The thing I always liked about MINICAM and like even better in MODERN is that you are not afraid to print pictures that are different. You print life as well as still life, documentary along with the pictorial—anything, so long as it is good.

The Ruth Orkin layout on shooting sequence pictures prompts me to send in this shot out of a sequence I made



recently. Everyone knows this camera character. He's the kibitzer who appears on the scene the second a tripod is erected. When you focus into the ground glass, he is looking into the lens. When you get the meter out, he's under the focusing cloth. "What F:

stop you usin', Mister? Gee, I didn't know the flash would go off if I touched the button!" Nuisance though he is, the kibitzer is a photographic ingredient; without him, some of the flavor would be gone. Greensboro, N. C. Ralph Mills

### Wichita Falls Is No Village

Sirs:

I like your photographer Joe Munroe, and I like his picture of my daughter



ter and her dog "Knight" in the final issue of MINICAM (July-Aug. issue, page 31—Ed.). It was a pleasure for Munroe to take a hundred or so pictures of Mary Ellen and the animals on our place. But both the Chamber of Commerce and I object to the caption calling Wichita Falls a "small Texas village." Please see picture enclosed.

Allan Montgomery

Wichita Falls, Texas

• Joe Munroe was in no way to blame for this caption. The editor who slipped it in has been deported back to California.—Ed.

### Red-letter Day

Sirs:

The first issue of MODERN is a knockout. You make Leonard McCombe, Bob Kafka, Ted Croner, Andres Feininger, and other "name" photographers sound like human beings instead of some sort of gods. As a long-time contributor to photo magazines, it will be a special red-letter day for me when I rate a by-line in MODERN.

George Boardman

Hollywood, Calif.

• Don't look now, George, but you are by-lining this month's Photo Data on a manuscript your assistant mailed in while you were on vacation.—Ed.

Long Li

Sirs:

Far be it from me to say that MODERN is dead—all deference to the rest of the world (July-Aug. issue) the girl in the lovely. Co picture of Bingham

• Here we'll include readers' and about m

Sirs:

Jeann less disc 2 1/2 year present and her For my every ti the set. photogs pictures of RED WOMAN I've she has in knit sells flo compa heroine which ible ph ness. T headin and th they r trained Santa

## Long Live The King!

Sirs:

Far be it from me to wail "The king is dead—long live the king!" But with all deference to the elegant first issue of MODERN. I think you laid MINICAM to rest with the best cover it ever had. (July-Aug. issue.—Ed.) Jean Brown, the girl in the pool, is exceptionally lovely. Could we please have another picture of her?

Binghamton, N. Y. Virgil Scott



• Here it is—and for good measure we'll include photographer Bob Hemmig's answer to the many letters from readers asking for more information about model Jean Brown.—Ed.

Sirs:

Jeannie tells me she was "more or less discovered" at the age of 17; add 2½ years to that and you have her present age. She is 5'3", weighs 110, and her measurements are 34, 24, 34. For my money, Jean is rediscovered every time a photographer has her on the set. I won't list all the well-known photos she has modeled for, but her pictures have appeared on the covers of REDBOOK, HIT, PAGEANT, SALUTE, WOMAN, and MINICAM.

I've never worked with her when she hasn't spent her whole rest "break" in knitting, but she also paints and sells floral designs to a greeting card company. On the side she plays the heroine in a Barbary Coast play. All of which make her one of the most flexible photographic models in the business. The helluvit is that Jeannie is heading back east. That is our loss and the eastern boy's gain; I only hope they remember that she is California-trained!

Santa Barbara

Bob Hemmig

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• As a rule we would much rather publish constructive criticisms than bouquets. The tremendous amount of mail resulting from the first issue of MODERN has left our vest buttons popping a little, however, and we feel justified in making an exception just this once. We want to thank the hundreds of well-wishers whose letters were highly appreciated even though we lack space in which to publish them here. We will do our best to continue to produce the kind of photo magazine you want and deserve.—Ed.

Sirs:

The first issue of MODERN is editorially impressive, the printing job is superb, and the magazine includes just about the finest color photographs I have ever seen.

S. F. Spira

Long Island, N. Y.

Spiratone Prod.

Sirs:

I have never before been impressed enough with any photo magazine to comment on it; but MODERN changes all that. I have seen nothing in the past to even compare with it. If you maintain this standard, you will have no competition.

Brooklyn, N. Y.

R. W. Tysan

Sirs:

The first issue of MODERN looks good. I expect soon to examine it more carefully. I can't help but be honest with you on one point; the cover does nothing to me at all. But of course I know from experience what a problem a cover can be.

LIFE Executive Offices Wilson Hicks

Sirs:

To be perfectly frank, I never expected to see such a fine magazine as far as artistic layout is concerned. Editorially it is extremely well done.

Alvin Sussman

New York Delta Photo Supply Co.

Sirs:

MODERN PHOTOGRAPHY is excellent; it is the magazine I have pleaded for since 1937. If you steadily publish a magazine as useful, elegant, artful, and instructive as the first issue, you will have created the photographic magazine of the United States.

New York

Joseph Bing

Sirs:

Like all your camera surveys, *How To Use A Rolleiflex* in the Sept. MOD-

ERN was excellent in every respect. Following through with your series of photographic equipment surveys, I suggest that you cover miniature cameras smaller than 35mm's. During the last few months a lot of these have been introduced on the American market, and I believe such a survey would be popular.

Phila., Pa.

Edward Wohlmut

• If enough other readers second this motion, it's as good as carried.—Ed.

Sirs:

MODERN is positively the first photographic trade journal with the intelligence and fortitude to publish a camera article that is not a combination lift from the instruction book and manufacturer's blurbs. The *Rolleiflex* and *Ektachrome* articles were wonderful. May I suggest that you explore the possibilities of Varigam?

Chester, Pa.

George Wikle

Sirs:

It is amazing how different MODERN is from the old MINICAM. I think you have an even better magazine than one that started up, flourished, and died a year or so ago. I hope you can keep going on the start you've made; the world needs a magazine such as MODERN.

Okla. City

Jimmy Kyle

Sirs:

MODERN is a great improvement over any photo mag heretofore on the market. Robert Kafka's "90 Minute Color" was excellent. Now how about on article on Dye Transfer?

Don Ramm

Sandusky, Ohio

Photographer

Sirs:

As a MINICAM reader from the first issue which ever appeared, I am delighted with the big color illustrations and the new size it has blossomed into as MODERN. The style of treatment is as modern as its name, and the diversity of material is delightful. My heartiest congratulations.

J. L. McCoy

Ann Arbor, Mich.

Argus, Inc.

Sirs:

The September issue of MODERN is an excellent job. Please accept our heartiest congratulations.

Howard Chapnick

New York

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# classified want ads

Classified Want Ads may be inserted in *Modern Photography* by any reliable individual, camera dealer, or specialty house. Terms: 20c a word. Each word, including each item in the address, counts as one word. Send cash with order. 5% discount for 6 consecutive insertions. Press run 200,000. Forms close on the 25th of each month.

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**DURAL** Camera Handle, light, sturdy, will not tarnish or rust, with nylon swivel safety strap, made to sell for \$1.50, special for 79c, cash or check with order. Refund if dissatisfied. L. R. Sales Co., 39 Berkeley Ave., Newark, N. J.

**16MM REELS AND CANS**—Used Government Surplus. 400 ft. 39c. 800 ft. \$1.15, 1200 ft. \$2.49, 1600 ft. \$2.95. Price is f.o.b. Dayton, Ohio, and includes reel and can. Minimum order \$1.50. Satisfaction guaranteed or your money refunded. SREPCO, Inc., 135 E. Second St., Dayton 2, Ohio.

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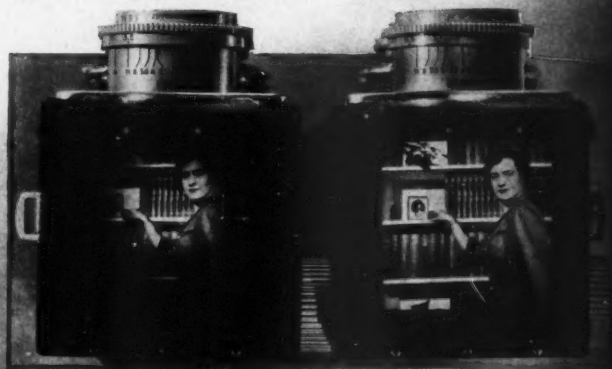
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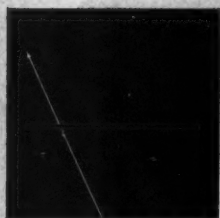
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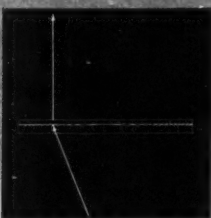
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